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OF THE

BRITISH WEST INDIAN ISLANDS.

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Dr G. Engelmann

OF THE

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BRITISH WEST INDIAN ISLANDS.

BY

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PREFACE.

In 1857 I published an enumeration of all Caribbean plants known up to that time; the materials from which this paper was drawn up chiefly consisting of an extensive herbarium collected in the island of Guadaloupe by Dr. Duchassaing, a French physician. At about the same period, Sir W. Hooker was exerting himself to procure the publication of a complete series of Colonial Floras (a vast scientific undertaking which could never be carried out, except through powerful influence such as he possessed), and consequently entrusted the elaboration of the present volume to myself, putting all the materials of the Hookerian Herbarium and the Kew Museums at my disposal, and procuring a grant of £300 from the British Government to meet the necessary expenses. As many thousands of dried plants had to be examined, and new collections were being formed in the colonies while the work proceeded, the labour was considerable, and eventually occupied more than six years, uninterruptedly. Four times I went over to England, to compare my own West Indian herbarium with that at Kew; whilst all those forms which proved not to be in my possession, were most liberally placed in my hands to be examined at Göttingen. These and other collections have now been returned to Kew, with my labels, and will hence be accessible authorities for the species I have described. For a series of doubtful West Indian plants mentioned by older authors I have, when sojourning in London, consulted the Banksian collection of the British Museum, but not to as great an extent as might have been desirable. All those Swartzian species, however, which I had no opportunity of seeing there, were kindly sent for inspection by Professor Andersson, of Stockholm, and these proved most important; for the specimens which Swartz has communicated to Willdenow and other German botanists, are often incorrectly labelled: hence the only authentic information as to certain Swartzian species is to be derived from his originals, either in the possession of the Academy of Stockholm, or of the British Museum.

The 'Flora of the British West Indies' is intended to be a synopsis of all vascular plants as yet known to inhabit the British West Indian possessions. Of cultivated plants only those are mentioned which are said to be naturalized in the country. Though reaching beyond the tropics (north lat. 10° to 27°), the West Indian islands present an entirely tropical character in their vegetable productions, and the Northern Bahamas in this respect are quite distinct

from the opposite continental shore of Florida, from which it is separated by the Gulf-stream; while Trinidad, lying almost contiguous to the delta of the Orinoco, partakes of the flora of Venezuela and Guiana. Jamaica again, from its mountainous character and more distant position,—most of the Leeward islands from being wooded volcanos,—and the majority of the Windward ones, with a dry climate and a low calcareous soil, form three divisions of this tropical archipelago, which show as many peculiarities. Thus the whole of the British West Indies, as comprised in this Flora, may be divided into five natural sections, each with a distinct botanical character, and including the following islands, the geographical area of which is added according to the American Almanac for 1858, and other sources.

			English square miles.
I.	27°–21° N. L.	Bahamas	5420
	21°	Turk Islands	400
II.	19°–18°	Jamaica	5470
III.	Western Caribbean Islands (most Leeward, and including some of the Windward islands).		
	18°	Virgin Islands	140
	17°	S. Kitts	70
	,,	Nevis	30
	16°	Montserrat	50
	15°	Dominica	290
	14°–13°	S. Lucia	225
	13°	S. Vincent	130
	12°	Grenada and Grenadillos	155
IV.	Eastern Caribbean Islands (most Windward, and some Leeward islands).		
	18°	Anguilla	30
	17°	Barbuda	90
	,,	Antigua	100
	13°	Barbadoes	170
	11°	Tabago	190
V.	10°	Trinidad	2000

Thus the territory comprised may be estimated as amounting to about 15,000 English square miles, or nearly twice as much as the area of Wales. Haiti alone is nearly twice as large as the whole of the British West Indies; Cuba surpasses them almost three times, and this will account for the fact, that, considerable as were the materials at my disposition, and great the exertions of so many excellent collectors, the number of novelties in my Flora is comparatively speaking small, while Cuba affords a daily increasing number of unpublished species. Considering, at the same time, how neglected by botanists Cuba has been, if we compare it with the standard works of men like Jacquin and Swartz, the publications of whom, with regard to the West Indies, were almost confined to the British possessions, it will appear probable, that by far the greatest part of the plants of our territory consists of old species, these indeed being the foundation of our scientific knowledge of the flora of tropical America.

To study these primary species and their varieties (which have so often been misunderstood, that their synonyms are far more numerous than their numbers), to show that many of them range through the whole of tropical

America, and some, even beyond its limits, and that a considerable number of so-called geographical species must be reduced, is an object of great systematic importance, and this has been the aim which, during my labour, I have constantly had in view. But another not less obvious task consisted in arranging the species according to the actual state of botanical science. Almost all the principal authors who have written on West Indian plants belong to the last century, and consequently to the Linnæan school, and a general synopsis of West Indian plants has never before been attempted, not even by Swartz, whose Flora contains descriptions of his new species only, with a few remarks on allied forms. The first important works were those of Sir H. Sloane (1696–1725) and of Patrick Browne (1756), both on the flora of Jamaica: the former, whose collection exists still, and forms one of the treasures of the British Museum, gave many rough drawings; the latter, a small number of most elaborate figures. Both are excellent works for their time, and their drawings are in most cases highly valuable authorities for Linnæan and Swartzian species. Linnæus himself (1759) has published a paper on a small set of Jamaica plants. Plumier's works (1693–1760), with their exaggerated sketches (not published in accurate conformity with the original drawings, which may be consulted at Paris, and are said to be more valuable), referring chiefly to Haiti, and being devoid of original descriptions, are less useful to the student of our flora. Baron Jacquin, the Austrian, and Ol. Swartz, the Swedish botanist, are the fundamental authors on the vegetable productions of the British West Indies; both had the advantage, which I had not, of collecting their specimens in the country, and many of their descriptions have been taken from the living plants. Of the British islands, Jacquin (1754–1759) visited Jamaica, S. Kitts, S. Vincent, and Grenada. Among his numerous iconographic publications, the rare coloured edition of his 'Historia Selectarum Stirpium Americanarum' (1780) contains 264 tables, and, being far superior to his former work on American botany (1763), is constantly quoted in our volume (Jacq. Pict.). Swartz was in Jamaica, Haiti, and in a few of the lesser Antilles (1784–1789). In his 'Flora Indiæ Occidentalis' (1797–1806) he describes 835 vascular plants, viz. about one-fourth of the number of species which I have enumerated. The American plants, described by Vahl in his 'Eclogæ Americanæ' (1796–1798), and other contributions, are not numerous, and often identical with those of Swartz: in a few cases, from want of original specimens, they could not be identified.

Much less important are the publications of the present century. Tussac's 'Flora Antillarum' (1808–1827) contains 138 coloured plates of Haiti plants, the majority of which had already been figured. Of Lunan's 'Hortus Jamaicensis' (1814) and Descourtilz' 'Flore Médicale des Antilles' (1821–1829), the former is a mere compilation, and the latter a series of execrable chiefly copied drawings; both of little or no scientific value. Hamilton's 'Prodromus Plantarum Indiæ Occidentalis' (1825) is a pamphlet on certain new or doubtful species, but which for the most part cannot be identified. Maycock's 'Flora Barbadensis' (1830) is a compendious list of Barbadoes plants, which I have omitted to quote, being not sufficiently informed on the authenticity of the determinations. Macfadyen's 'Flora of Jamaica' (1837)

was interrupted by the author's death: only the first part and a few sheets of the second were printed, reaching, according to the Candollean system, from Ranunculaceæ to Melastomaceæ. The Hookerian Herbarium afforded me an opportunity of comparing his originals and some of his manuscripts.

Thus, of no part of the British West Indies has a tolerably complete Flora ever been published since the time of P. Browne, and on a large number of species occurring in these islands, general systematic works and periodical literature are the only sources of information. A. Richard's 'Flora of Cuba' (1838–1853), compiled from Ramon de la Sagra's and Linden's materials, is so incomplete, that in other collections sent from that large island, *e. g.* in those of Rugel and C. Wright, there occur nearly thrice as many species. I much regret that I only very lately succeeded in procuring the Spanish folio edition of Richard's work (printed about 1850), all the remaining copies of which, as the publisher told me at Paris, were carried to Spain by Ramon de la Sagra. Thus my quotations refer to the first volume of the French edition in octavo, comprising only the Polypetalous Orders (1845), the second volume never having been printed; but I have been enabled to identify most of Richard's new species from the plates, or from Linden's original specimens.

At the end of the volume I have given a list of the botanists and collectors to whom my materials of the Flora of the British West Indies are due. From these specimens almost all the descriptive details have been drawn up; and it is but rarely that I have copied from other authors, or from the labels of the collector, marking quotations by inverted commas, or adding as for manuscript notes my authority in a parenthesis ( ).*

The British Museum is particularly rich in old collections: those of Sieber I consulted in the Hookerian Herbarium, and in Dr. Sonder's and my own herbarium, whilst, for the inspection of many of Bartero's plants, belonging to the Würzburg Museum, I am indebted to Professor Scheur. The large bulk of West Indian plants at Kew consists of the collections of modern explorers, of whom the majority, however, are no longer living. Three zealous correspondents have died during the publication of the work: Mr. Elsey, shortly after his arrival in the island of St. Kitts, where he had begun to collect for my Flora; the two others in the year of its termination, both of them my German countrymen, Dr. Crueger, the late Director of the Botanic Garden of Trinidad, and the Rev. Mr. Wullschlaegel, of Herrnhut, the former of whom had contributed the duplicates of his Trinidad Herbarium, the latter an extensive and highly valuable collection, the entire produce of his botanical pursuits at the missionary stations in Antigua and Western Jamaica. The principal Jamaica collections of the Kew Herbarium were made by Macfadyen, Purdie, M'Nab, Distan, and Dr. Alexander Prior (to whom I am also indebted for giving me the greatest facilities for consulting his rich private herbarium), by Mr. Wilson, the Director of the Colonial Botanic Garden, and by Mr. Marsh, a resident of the island, both of whom have sent ample materials during the publication of this Flora. From the Bahamas, a group of islands which promises still many novelties, Swainson's tolerably rich unpublished

* Thus for accuracy generally I alone am responsible, though for many unavoidable imperfections of the work, I beg to take into account the usual state of dry specimens collected in a tropical climate.

collection proved very interesting, and lately Mr. Hjalmarsson has sent some new materials from the Turk Islands. The Caribbean Archipelago is represented in the Kew Herbarium by several minor collections, but especially by the extensive communications of Dr. Imray, of Dominica, and by the entire collection of Rev. Mr. Guilding, of St. Vincent. The principal Trinidad Herbaria to which I had access, were those of Sieber, Lockhart, De Schach, Lane, Purdie, and Crueger.

On the geographical range of the West Indian plants (including Cuba), I am preparing a special paper, but the materials for such an inquiry have been added in brackets at the end of the habitat of every species, as far as it is known to proceed beyond the limits of the British islands. These facts were chiefly collected by careful comparison of specimens from other localities, whilst studying the West Indian plants in the Kew Herbarium (the largest stock of phyto-geographical materials in the world), and as often as I could verify the identity of a species from different countries, I have added the usual sign (!).

As for the classification of species into genera, and of genera into Natural Orders, I have followed generally received principles. But the series or arrangement of Orders adopted in this volume may be censured with apparent justice, as not being in conformity with the other colonial Floras since published. I must, however, remark that the publication of the West Indian Flora began before any other (1859), and that at that time, as is known from the systems of De Candolle, Endlicher, and Lindley, no one series of Orders was universally adopted. It must further be taken into account that the authors of Floras, though mostly following the Candollean series, habitually admit certain deviations from it according to natural affinity, as for instance, Dr. Asa Gray has in his North American, and Mr. Bentham in his 'British Flora,' and that my own series of Dicotyledonous Orders is nearly in conformity with De Candolle's 'Prodromus,' except in giving up the Apetalous division, and in arranging the Apetalous plants (as has been considered advisable by many authors before me), next to those Orders which I considered more or less allied. This is not a convenient place to discuss this principle, and as no reader can get a sufficient knowledge of the natural classification of plants without studying general works on botany, I abstain from dwelling here any longer on such a disputable point as the merits of one or the other series of Natural Orders; referring those who desire information about my arrangement to a paper on the subject ('Grundriss der Systematischen Botanik,' 1854). But to meet the objection of incongruity in this respect between the different colonial Floras, I prefix a table of the Orders, arranged more in conformity with the Candollean series of Dicotyledones.

Finally, I take this opportunity of expressing my sincere obligations to all those who have favoured and patronized the edition of this Flora, and in particular to Sir W. Hooker, who has been the real founder and supporter of the work, and to Dr. J. D. Hooker, without whose constant assistance in overlooking the press and advising me on certain scientific and editorial subjects, it could never have been completed.

A. H. R. GRISEBACH.

Göttingen, 26th June, 1864.

TABULAR ARRANGEMENT

OF THE

NATURAL ORDERS, ACCORDING TO TYPICAL, VIZ. NOT UNEXCEPTIONAL CHARACTERS.

Dicotyledones. *First leaves of the embryo opposite. Ovary closed.*

I. THALAMISTEMONES. *Petals distinct. Stamens inserted into the torus.*

A. *Ovaries distinct.*

1. *Ranunculaceæ* (page 1). Sepals deciduous. Leaves dotless, not aromatic.
2. *Dilleniaceæ* (p. 2). Sepals persistent. Seeds arillate.
3. *Magnoliaceæ* (p. 3). Sepals deciduous. Leaves aromatic, usually stipulate.
4. *Anonaceæ* (p. 3). Albumen ruminate. Leaves aromatic, without stipules.
5. *Menispermeæ* (p. 9). Flowers unisexual. Stamens opposite to the corolla. Scandent plants.
6. *Nymphæaceæ* (p. 11). Embryo separated by a sac from the amylaceous albumen. Water-plants.
7. *Nelumboneæ* (p. 12). Seeds exalbuminous. Water-plants.

B. *Ovary with parietal placentas.*

8. *Papaveraceæ* (p. 12). Sepals 2–3. Albumen copious, including the minute embryo.
9. *Cruciferæ* (p. 13). Sepals 4. Stamens tetradynamous. No albumen.
10. *Capparideæ* (p. 15). Sepals 4. Stamens ∞–6. No albumen.
11. *Bixineæ* (p. 20). Torus with a disk. Albumen fleshy, including an embryo with foliaceous cotyledons.
12. *Violaceæ* (p. 25). Stamens 5: the anther exceeded by the connective. Albumen fleshy, including the embryo.
13. *Sauvagesieæ* (p. 112). Fertile stamens 5, the sterile exterior. Albumen fleshy, including the embryo.
14. *Droseraceæ* (p. 26). Calyx 3-partite. Albumen copious, including the minute embryo. Glanduliferous herbs.

[Cf. Caryophylleæ (p. 54), Canillaceæ (p. 108), Marcgraaviaceæ (p. 109), Hypericineæ (p. 110), Passifloreæ (p. 290), Turneraceæ (p. 296).]

C. *Ovary* 2(–1)*-celled: ovules single, pendulous.*

15. *Polygaleæ* (p. 27). Flowers asymmetrical.

[Cf. Euphorbiaceæ (p. 31).]

D. *Ovary* 1*-celled, with a central, free placenta, or several-celled.*

16. *Caryophylleæ* (p. 54). Embryo excentrical: albumen amylaceous.

E. *Ovary several-celled: placentas in the axis.*

a. *Calyx valvate.*

17. *Malvaceæ* (p. 71). Stamens ∞, monadelphous: anthers 1-celled.
18. *Bombaceæ* (p. 87). Staminal column divided into parcels: anthers 1-celled.
19. *Sterculiaceæ* (p. 89). Stamens monadelphous: anthers 2-celled. Flowers unisexual, apetalous.
20. *Buettneriaceæ* (p. 90). Stamens monadelphous: anthers 2-celled. Flowers complete.
21. *Tiliaceæ* (p. 95). Stamens ∞, distinct: anthers 2-celled.

b. *Calyx imbricative.*

aa. *Sepals 2–pluriserial, or passing into bractlets. Stamens* ∞ (–10).

22. *Ternstrœmiaceæ* (p. 103). Style simple or lobed. Leaves alternate.
23. *Guttiferæ* (p. 108). Stigmas sessile, or styles distinct. Flowers polygamous. Leaves opposite, shining.
24. *Canillaceæ* (p. 108). Stamens forming a tubular column; anthers 20–10, extrorse. Leaves alternate.
25. *Marcgraaviaceæ* (p. 109). Stigmas sessile. Leaves alternate; bracts cucullate.
26. *Hypericineæ* (p. 110). Styles usually distinct. Leaves opposite, dotted.
    [Cf. Ochnaceæ (p. 104).]

bb. *Calyx uniserial. Stamens* 10 *or less* (–∞).

27. *Erythroxyleæ* (p. 113). Petals bearing internally a double scale. Stamens monadelphous, 10.
28. *Malpighiaceæ* (p. 114). Calyx usually with 8–10 glands on the outside. Petals clawed.
29. *Sapindaceæ* (p. 122). Sepals 5–4. Stamens distinct, usually 8.
30. *Staphyleaceæ* (p. 128). Sepals 5. Stamens distinct, 5.
31. *Meliaceæ* (p. 128). Stamens monadelphous nearly to the anthers. Style simple.
32. *Aurantiaceæ* (p. 131). Stamens polyadelphous in the West Indian genus. Ovary entire; style simple.
33. *Geraniaceæ* (p. 132). Stamens monadelphous, fertile, 10 or less. Styles adnate to the axis, at length distinct.
34. *Oxalideæ* (p. 132). Petals contorted. Styles distinct, 5.
35. *Zygophylleæ* (p. 134). Stamens distinct. Leaves opposite, compound, stipulate.
36. *Rutaceæ* (p. 134). Stamens distinct. Ovaries more or less distinct above. Leaves usually exstipulate, often dotted.
37. *Ochnaceæ* (p. 104). Anthers long, opening with pores. Leaves shining.
    [Cf. Euphorbiaceæ (p. 31), Phytolacceæ (p. 58), Ericeæ (p. 141), Cyrilleæ (p. 145).]

F. *Ovary simple, 1-celled or divided by tissue; ovules few, hanging from a central placenta, or the summit of the cell.*

38. *Olacineæ* (p. 309). Petals valvate, often internally villous.

G. *Ovary 2- several celled; ovules 2–1 in each cell, ascending.*

39. *Ampilideæ* (p. 102). Stamens opposite to the valvate petals.
    [Cf. Ilicineæ (p. 146); ovules pendulous.]

II. Calycostemones. *Stamens or petals inserted into the calyx.*

A. *Ovary several-celled, superior (except in some* Rhamneæ); *ovules* 1–2 *in each cell. Leaves simple.*

40. *Celastrineæ* (p. 145). Stamens alternate to the petals. Ovules usually erect.
41. *Ilicineæ* (p. 146). Stamens alternate to the petals. Ovules pendulous. Albumen copious, including the minute embryo.
42. *Hippocrateaceæ* (p. 148). Stamens 3; petals 5; ovules ascending.
43. *Chailletiaceæ* (p. 149). Stamens alternate to the petals. Ovules pendulous.
44. *Rhamneæ* (p. 99). Stamens alternate to the valvate calyx-lobes. Ovules erect.

B. *Ovary several-celled, or simple; ovules* 1–2 *in each cell. Leaves usually compound.*

45. *Terebinthaceæ* (p. 173). No albumen.

C. *Ovaries single, or distinct, free. No albumen.*

46. *Leguminosæ* (p. 177). Carpel single; fruit leguminous.
47. *Connaraceæ* (p. 228). Carpels 5–1; fruit follicular.
48. *Chrysobalaneæ* (p. 229). Carpel single; style suprabasilar; fruit drupaceous.
49. *Rosaceæ* (p. 231). Carpels ∞–1. Flowers symmetrical.

D. *Ovary several-celled (simple in* Combretaceæ); *style simple. Calyx valvate. No albumen.*

50. *Myrtaceæ* (p. 232). Stamens usually ∞. Ovary inferior. Leaves entire.
51. *Melastomaceæ* (p. 243). Stamens definite, inflexed in the bud. Ovary inferior, or adhering by lines. Leaves curve-ribbed, opposite.
52. *Lythrarieæ* (p. 269). Stamens definite. Ovary superior.
53. *Onagrarieæ* (p. 271). Stamens definite. Ovary inferior.
54. *Rhizophoreæ* (p. 274). Ovary-cells with definite, hanging ovules. Leaves opposite; stipules interpetiolar.
55. *Combretaceæ* (p. 274). Ovary simple, inferior; ovules few, hanging. Leaves without stipules.

E. *Ovary with parietal placentas.*

56. *Cucurbitaceæ* (p. 286). Ovary inferior, usually divided by the 3 placentas; stigmas distinct. No albumen. Stem scandent by tendrils.
57. *Papayaceæ* (p. 289). Ovary superior; placentas 5; stigmas distinct. Seeds albuminous. Trees.
58. *Passifloreæ* (p. 290). Ovary superior; stigmas distinct. Seeds albuminous.
59. *Turneraceæ* (p. 297). Petals inserted into the calyx, stamens into the torus.
60. *Homalineæ* (p. 298). Stamens alternate to or fascicled alternately with the calyx-segments.
61. *Loaseæ* (p. 298). Ovary inferior; style simple. Down of stinging hairs.
62. *Cacteæ* (p. 300). Sepals, petals, and stamens ∞. Succulent plants.
[Cf. Bixineæ (p. 20).]

F. *Ovaries distinct or connected, with the styles usually distinct. Seeds small,* ∞.

63. *Crassulaceæ* (p. 303). Carpels as many as the petals, free. Leaves succulent.
64. *Saxifrageæ* (p. 303). Ovary usually 2-celled. Albumen copious, including a small embryo.
[Cf. Caryophylleæ (p. 54).]

G. *Ovary inferior,* 2– *many-celled, with the styles distinct or combined; ovules single in each cell, pendulous. Calyx-limb reduced. Seeds albuminous; embryo minute.*

65. *Araliaceæ* (p. 305). Pericarp fleshy.
66. *Umbelliferæ* (p. 307). Carpels 2, dry in fruit, at length distinct.

H. *Ovary simple, cohering to the reduced* 3–1 *ovules.*

67. *Loranthaceæ* (p. 311). Shrubby parasites.

III. Petalostemones. *Petals cohering. Stamens usually inserted into the corolla.*

A. *Ovary inferior. Stigma naked.*

68. *Caprifoliaceæ* (p. 315). Leaves opposite.
69. *Rubiaceæ* (p. 316). Leaves whorled, usually 2 in the whorl developed, and the rest stipuliform.
[Cf. Ericeæ (p. 141), Gesneriaceæ (p. 459).]

B. *Ovary inferior, simple, 1-ovulate; stigmas with collecting hairs.*

70. *Synanthereæ* (p. 352). Anthers connected. Flowers in involucrate heads.

C. *Ovary inferior, several-celled; ovules ∞; stigmas with collecting hairs.*

71. *Lobeliaceæ* (p. 385). Corolla asymmetrical.
72. *Goodenovieæ* (p. 388). Corolla asymmetrical. Stigma indusiate.
73. *Campanulaceæ* (p. 388). Corolla symmetrical.
 [Cf. Cucurbitaceæ (p. 286).]

D. *Ovary superior. Stamens inserted into the torus.*

74. *Ericeæ* (p. 141). Ovules ∞ in the ovary-cells.
75. *Cyrilleæ* (p. 145). Ovules single in the ovary-cells.

E. *Ovary superior. Stamens inserted into the corolla, opposite to its lobes. Placenta central, free.*

76. *Primulaceæ* (p. 390). Corolla symmetrical. Pericarp capsular.
77. *Lentibularieæ* (p. 390). Corolla 2-lipped; stamens 2. Pericarp capsular.
78. *Myrsineæ* (p. 392). Corolla symmetrical. Pericarp fleshy.
 [Cf. Olacineæ (p. 309).]

F. *Ovary superior. Stamens inserted into the corolla, exceeding in number its lobes' or the fertile ones opposite to them.*

79. *Sapoteæ* (p. 397). Ovules single in the ovary-cells; style simple.
80. *Styraceæ* (p. 402). Ovules ∞–several in the ovary-cells; style simple.
81. *Ebenaceæ* (p. 404). Ovules 1–2 in the ovary-cells, hanging; style divided.
 [Cf. Papayaceæ (p. 289), Crassulaceæ (p. 303).]

G. *Ovary superior. Stamens inserted into the corolla, as many as its lobes or less.*

a. *Corolla symmetrical.*

82. *Olineæ* (p. 404). Stamens 2 (–4). Ovary 2-celled; ovules 2 in each cell, hanging.
83. *Jasmineæ* (p. 406). Stamens 2. Ovary 2-celled; ovules single (or few) in each cell, ascending.
84. *Apocyneæ* (p. 406). Stamens 5. Ovaries 2, connected by the stigma, or ovary 2-celled. Corolla usually contorted.
85. *Asclepiadeæ* (p. 416). Stamens 5. Ovaries 2, connected by the indusiate stigma. Pollen in masses.
86. *Gentianeæ* (p. 422). Stamens 5–4. Ovary with 2 parietal placentas. Corolla usually contorted.
87. *Convolvulaceæ* (p. 466). Stamens 5–4. Ovary usually 2–4-celled; ovules of each carpel 2–1, erect. Sepals usually distinct.
88. *Hydroleaceæ* (p. 476). Stamens 5. Ovary 2–3-celled; ovules ∞; styles distinct.
89. *Boragineæ* (p. 477). Stamens usually 5. Ovary lobed, 4-celled; ovules single in each cell, hanging. Inflorescence gyrate.
90. *Solaneæ* (p. 431). Stamens 5–4. Ovary 2-celled; placentas axile, many-ovulate. Inflorescence cymose, extra-axillary.
 [Cf. Ilicineæ (p. 146), Rubiaceæ (p. 316), Scrophularineæ (p. 431).]

b. *Corolla asymmetrical, usually 2-lipped.*

91. *Scrophularineæ* (p. 431). Ovary 2-celled; placentas axile, many-ovulate. Seeds albuminous.
92. *Bignoniaceæ* (p. 444). Ovary 2-celled; placentas 2; ovules ∞, distant from the axis. No albumen.
93. *Acanthaceæ* (p. 450). Ovary 2–1-celled. Seeds definite, ascending, usually with hooked appendages. No albumen.
94. *Gesneriaceæ* (p. 459). Ovary with 2 parietal placentas.
95. *Labiatæ* (p. 486). Ovary lobed, 4-celled; ovules single in each cell, erect. No albumen.

96. *Verbenaceæ* (p. 492). Ovary entire; ovules single in each cell. No albumen.
97. *Myoporineæ* (p. 492). Ovary entire; ovules definite in each cell. Seeds albuminous.
[Cf. Rutaceæ (p. 134).]

IV. Monochlamydeæ. *Flowers apetalous, or incomplete.*

A. *Calyx scarious, inferior.*

98. *Plantagineæ* (p. 389). Stamens alternate to the lobes of the involucellate calyx.
99. *Plumbagineæ* (p. 389). Stamens alternate to the lobes of the calyx, opposite to a corolla-like crown. Ovary simple; style-branches 5.
[Cf. Amarantaceæ (p. 61).]

B. *Calyx inferior (rarely none). Albumen amylaceous; embryo usually excentrical.*

100. *Phytolacceæ* (p. 58). Ovaries distinct above or single; a single ovule in each carpel.
101. *Chenopodeæ* (p. 59). Ovary simple (rarely 4-celled), with a divided style; ovule single. Calyx herbaceous.
102. *Amarantaceæ* (p. 61). Ovary simple. Calyx involucellate, free from the opposite stamens.
103. *Nyctagineæ* (p. 69). Ovary simple; style simple. Calyx corolla-like.
104. *Polygoneæ* (p. 161). Ovary simple with a divided style; ovule single. Calyx usually coloured. Leaves ochreate.
[Cf. Caryophylleæ (p. 54).]

C. *Calyx inferior, or none. Albumen none, or fleshy.*

105. *Laurineæ* (p. 279). Calyx imbricative. Anthers dehiscent by valves. Ovary simple; ovule single, hanging.
106. *Proteaceæ* (p. 277). Calyx valvate. Stamens 4. Ovary simple.
107. *Thymeleæ* (p. 278). Calyx imbricative. Ovary simple; ovule laterally affixed.
108. *Myristiceæ* (p. 8). Flowers unisexual. Calyx valvate. Ovary simple. Embryo minute; albumen ruminate.
109. *Monimieæ* (p. 9). Flowers unisexual. Ovaries distinct, ∞. Embryo minute in the top of albumen.
110. *Ceratophylleæ* (p. 12). Flowers unisexual, naked. Ovary simple. No albumen. Aquatic plants.
111. *Euphorbiaceæ* (p. 31). Flowers unisexual. Ovary usually 3-celled; ovules 1–2 in each cell, hanging. Seeds albuminous.
112. *Nuticeæ* (p. 149). Flowers usually unisexual. Ovary simple; ovule single; stigmas usually distinct.
[Cf. Papaveraceæ (p. 12), Bixineæ (p. 20), Sterculiaceæ (p. 89), Tiliaceæ (p. 95), Rhamneæ (p. 99), Rutaceæ (p. 134), Chrysobalaneæ (p. 229), Passifloreæ (p. 290), Olineæ (p. 404).]

D. *Ovary inferior. Flowers not amentaceous.*

113. *Aristolochiaceæ* (p. 299). Flowers hermaphrodite. Calyx coloured.
114. *Bignoniaceæ* (p. 303). Flowers unisexual. Sepals coloured, distinct in ♂.
[Cf. Myrtaceæ (p. 232), Onagrarieæ (p. 271), Combretaceæ (p. 274), Loranthaceæ (p. 311).]

E. *Ovary inferior or naked. Flowers on a spadix.*

115. *Balanophoreæ* (p. 309). Flowers unisexual. Ovary simple. Aphyllous parasites.

F. *Flowers amentaceous, at least in ♂.*

116. *Juglandeæ* (p. 176). Drupe 1-seeded. Embryo with anfractuose-sinuate cotyledons; no albumen. Leaves compound.
117. *Amentaceæ* (p. 177). Fruit 1-seeded. No albumen. Leaves simple.
118. *Garryaceæ* (p. 285). Ovary simple, inferior. Seeds albuminous. Leaves opposite.
119. *Lacistemeæ* (p. 25). Ovary with parietal placentas, superior. Seeds albuminous.

120. *Saliceæ* (p. 112). Ovary with parietal placentas, naked. Seeds woolly; no albumen
121. *Piperaceæ* (p. 164). Ovary simple, naked. Embryo separated by a sac from the amylaceous albumen.
122. *Chlorantheæ* (p. 172). Ovary simple, naked. Embryo in the top of fleshy albumen

Gymnospermæ. *First leaves of the embryo opposite or whorled. Ovary open.*

123. *Coniferæ* (p. 503). Trunk branched. Leaves entire.
124. *Cycadeæ* (p. 504). Trunk simple. Leaves pinnate.

Monocotyledones. *First leaf of the embryo single.*

A. *Seeds devoid of albumen. Embryo hollow above.*

125. *Alismaceæ* (p. 505). Flowers corollate. Ovaries distinct, superior.
126. *Hydrocharideæ* (p. 506). Flowers corollate. Ovary inferior.
127. *Najadeæ* (p. 506). Flowers apetalous or naked.
[Cf. Aroideæ (p. 307).]

B. *Seeds albuminous. Flowers on a spadix.*

128. *Aroideæ* (p. 507). Spadix supported by a spathe.
129. *Typhaceæ* (p. 512). Spadices 2–several, one above the other.
130. *Pandaneæ* (p. 513). Spadix supported by spathes. Leaves at the summit of the trunk.
131. *Palmæ* (p. 513). Spadix supported by spathes. Embryo in a special cavity of the albumen. Leaves at the summit of the trunk, usually divided.

C. *Embryo in a special operculate cavity of the amylaceous albumen.*

132. *Commelyneæ* (p. 523). Flowers corollate.

D. *Embryo on the outside of amylaceous albumen.*

133. *Xyrideæ* (p. 525). Flowers corollate.
134. *Restiaceæ* (p. 526). Flowers glumaceous. Ovary single in the ovary-cells.
135. *Gramineæ* (p. 527). Flowers enclosed by glumaceous bracts. Ovary simple; ovule single, lateral.

E. *Embryo included in amylaceous albumen. Flowers naked or glumaceous.*

136. *Cyperaceæ* (p. 562). Flowers enclosed by glumaceous bracts. Ovary simple; ovule single, erect.
137. *Junceæ* (p. 581). Calyx glumaceous. Capsule many–3-seeded.

F. *Embryo included in fleshy corneous albumen. Perigone coloured.*

138. *Liliaceæ* (p. 587). Flowers hermaphrodite. Pericarp capsular.
139. *Smilaceæ* (p. 585). Pericarp usually fleshy. Ovary superior. Albumen corneous.
140. *Dioscoreæ* (p. 586). Flowers unisexual. Ovary inferior.
141. *Irideæ* (p. 589). Flowers hermaphrodite. Stamens 3, alternate to the inner perigone. Ovary inferior.

G. *Embryo included in amylaceous albumen. Perigone coloured.*

142. *Hæmadoraceæ* (p. 589). Perigone uniserial, of 6 divisions. Stamens 6–3. Leaves equally equitant.
143. *Pontederiaceæ* (p. 590). Perigone asymmetrical, of 6 divisions. Stamens 6–3, unequal. Aquatic plants.
144. *Bromeliaceæ* (p. 590). Perigone biserial, of 3 exterior and 3 interior divisions. Stamens 6.
145. *Musaceæ* (p. 599). Perigone biserial, unequal. Stamens 6; one sterile or abortive. Terrestrial, often arborescent plants.
146. *Scitamineæ* (p. 600). Perigone biserial, of 3 exterior and asymmetrical interior divisions. Fertile stamen 1.

H. *Embryo solid; no albumen. Perigone coloured, superior.*

147. *Burmanniaceæ* (p. 605). Perigone symmetrical. Stamens 3.
148. *Orchideæ* (p. 606). Perigone asymmetrical. Fertile stamen 1, gynandrous; pollen in masses.

CRYPTOGAMÆ VASCULARES. *Propagation by simple cells (spores), impregnation by antheridia (not by pollen).*

149. *Rhizocarpeæ* (p. 644). Sporangia included in conceptacula. Aquatic herbs.
150. *Lycopodiaceæ* (p. 645). Sporangia axillary.
151. *Equisetaceæ* (p. 648). Sporangia at the under side of peltate scales, the latter in terminal cones.
152. *Filices* (p. 648). Sporangia in sori at the under side of the leaves.

FLORA

OF THE

BRITISH WEST INDIAN ISLANDS.

DICOTYLEDONES.

I. RANUNCULACEÆ.

Flower-organs distinct from each other, the two inner whorls usually indefinite. *Anthers* adnate: cells extrorse or lateral. *Embryo* minute, included in the top of the endosperm. —Leaves *sheathing, mostly dissected, without stipules.*

The sap contains an acrid, volatile principle, and alkaloids occur in the tribe of *Helleboreæ*. The Negroes bruise the leaves of *Clematis dioica* and apply it as a blister. (*Pd.*)

1. CLEMATIS, *L.*

Sepals corolline, valvate, 4 (–8). *Petals* none. *Achenia* numerous, sessile, beaked by the elongated style.—Vines (*rarely erect herbs*), *climbing by the petioles;* leaves *opposite.*

1. **C. dioica,** *L.* Climbing, pubescent or glabrescent; *leaves ternately divided: segments* ovate, *entire;* panicles polygamous; sepals cuneate-oblong, spreading, downy; carpels ellipsoidal, tapering into the long, plumose tail.—*Sl. t.* 128. *f.* 1; *Rich. Cub. t.* 1.— C. americana, *Mill.* C. dominica, *Lam.* C. glabra, *DC.* C. havanensis, *Kth.* C. pallida *and* Catesbyana, *Rich. Cub.* (*non Pursh*). C. acapulcensis, *H.A.!:* a form with shaggy carpels. C. discolor, *Gardn.!:* a form with the leaves downy beneath.—A shrubby climber; leaf-segments $1\frac{1}{2}''$–$2''$ long, variable; sepals $4'''$–$6'''$ long, whitish; carpels usually large, $2'''$ –$3'''$ long.—Hab. Jamaica!, *Macf., Dist., Prd., Alex.*, common on the lower hills; Dominica!, *Imray;* [Cuba! and Mexico! to the southern tropic in Brazil!].

2. **C. caripensis,** *Kth.* Climbing, glabrescent; *leaves pinnatisect*, or the divisions of the ternatisect petiole pinnatisect: *segments* usually 5, ovate, *entire*, glabrous; panicles diœcious, puberulous; sepals "oblong, pubescent;" carpels ellipsoidal or elliptical-lanceolate. —Very similar to the preceding species, and not less widely distributed through the Continent.—Hab. Trinidad!, *Cr.;* [Central America! to Brazil!].

2*. RANUNCULUS, *L.*

Petals 5 (–15), with a nectariferous spot. *Seed* solitary, erect.—*Herbs.*

3*. **R. repens,** *L.* Perennial; *stem furrowed at the top,* branched; leaves tripartite: segments cuneate, incisely toothed; calyx spreading (or reflexed); *carpels* rounded, glabrous, marginate, *beaked by the subulate,* recurved or straightish style.—*Rchb. Ic. Germ.* 3. *t.* 20. —Petals yellow.

β. tropicus. Calyx reflexed; petals 5–10; beak of carpels straightish.—R. præmorsus *and* Bonplandianus, *Kth.* R. repens, *Macf.!* The Jamaica form, which, though growing on the highest mountains, Macfadyen expressly mentions as introduced and escaped from a garden, is quite identical with various specimens from the Andes (viz. *R. præmorsus*, from Quito: *Benth. Pl. Hartw. n.* 875; the same from Peru; *R. Bonplandianus* from Bogotá:

Goudot); but the differences from the European type, considerable as they appear, are more or less annihilated by the comparison of the variable states of the North American plant, as defined by Asa Gray, thus exhibiting a remarkable instance of a *climatic variety.* The large, marginate, somewhat dotted achenia, and the size of their beak, are the same in all forms of the species; the number of petals increases usually in the *R. repens* of Texas. The beak becomes straightish in the common form of the United States, and the only difference between the var. *tropicus* and the var. *marylandicus* or other forms of North America, would consist in the usually reflexed calyx.—HAB. Jamaica!, *Macf.*, on the Blue Mountains, elev. 5000′; [Andes of S. America!, on alpine pastures].

4*. **R. parviflorus,** *L.* Subdecumbent, villous; leaves roundish, 3–5-lobed; *calyx* at length reflexed, *equalling the petals; carpels* roundish, marginate, *tuberculate,* with a short, usually hooked beak: margin acute.—*Rchb. Ic. Germ.* 3. *t.* 22.—HAB. Jamaica!, *Macf.*, naturalized on elevated pastures; [Europe!, Levant!, S. U. States!, California!].

II. DILLENIACEÆ.

Flower-organs distinct from each other. *Sepals* persistent. *Seeds* arillate: embryo minute, included in the top of the endosperm.—Leaves *penninerved, not divided.* Stem *in the West Indian genera woody.*

The leaves of the *Delimeæ* (which is the tribe of the Order, represented in America) are usually rough with asperities (not with hairs), and used for polishing, as those of *Curatella.* No properties but the astringent principle are known.

1. TETRACERA, *L.*

Sepals 5, one exterior, two interior, subvalvate, not exceeding the outer ones. *Stamens* indefinite: anther-cells minute, divergent. *Carpels* 2–5 (–1), follicular: seeds 1–5.—Shrubs, *usually scandent; panicle terminal or lateral.*

1. **T. volubilis,** *L.* (*ex syn. Plukn.*). *Leaves* rough, obovate, *serrate:* serratures remote, terminating the 8–16 equidistant veins, decreasing towards the leaf-base; panicle loose: branches racemiform; flowers polygamous; sepals obovate, silky on the inner side; carpels one-seeded.—*Plukn. Alm. t.* 146. *f.* 1; *Desc. Fl.* 7. *t.* 459; *Rich. Cub. t.* 4.—T. Pœppigiana, *Schlecht.!* T. jamaicensis, *DC. ex Macf.* Tigarea aspera, *Desc.*—Linnæus confounded several plants under the above name; but his observation on Plukenet's figure shows that he had Schlechtendal's species in view, which, according to Herb. Hook., is the *T. volubilis,* L. fil. and Sm. This is the only *Dilleniacea* in Macfadyen's Flora, and sent by him to Sir W. Hooker; but his description and locality also apply to *Davilla surinamensis,* which he confounded with it. Hence what he says of the leaves and the fruit belong to this, while he describes the calyx of *Davilla.*—HAB. Jamaica!, *Macf.*, in woods; Barbadoes; [Cuba! and Mexico! to Rio Janeiro!].

2. **T. ovalifolia,** *DC. Leaves* rough, obovate or obovate-oblong, entire, retuse or mucronate: veins equidistant, 8–12, prominent beneath; panicle loose: branches short, racemiform; flowers polygamous; sepals roundish, pubescent and ciliate; carpels one-seeded: arillus large, laciniate.—*Deless. Ic.* 1. *t.* 68.—T. asperula, *Miq.*—A scandent shrub, similar to the preceding, and variable in the form of its leaves, but without any serratures.—HAB. Trinidad!, *Cr.;* [Guiana!].

2. DAVILLA, *Vand.*

Sepals 5, two exterior, two interior, subvalvate, excrescent, much exceeding the three outer ones, and enclosing the fruit. *Stamens* indefinite: anther-cells minute, divergent. *Carpels* 1 (–3): stigma peltate. *Follicle* single, rupturing, one-seeded (by abortion of a second ovule).—Scandent shrubs; panicles *terminal and axillary:* flowers *yellow.*

3. **D. rugosa,** *Poir.* Leaves rough, ovate-oblong, subentire or repand: petiole marginate upwards; panicle constituted of terminal and axillary corymbs: *pedicels pilose; inner sepals* crustaceous, and *at length shining,* glabrate.—*Deless. Ic.* 1. *t.* 71; *Rich. Cub. t.* 2, 3. —D. brasiliana, *DC.* D. surinamensis, *Miq.* D. ciliata, *Rich.!:* the younger plant, with downy inner sepals. D. Sagræana, *Rich.:* a form with broader leaves, and the inflores-

cence lateral on account of the further development of the climbing stem.—A scandent shrub: the leaves are more oblongate than in *Tetracera volubilis*, and though veined in a similar way, the serratures are obsolete, or entirely wanting.—HAB. Jamaica!, *Macf.*, *Alex.*, in woods, *e.g.* S. Thomas in the Vale; Trinidad!, *Cr.;* [S. Thomas!, Guiana!, Brazil].

3. CURATELLA, *L.*

Sepals 4–5, two exterior not exceeded by the inner ones. *Stamens* indefinite: anther-cells shortly linear, divergent. *Carpels* 2, hispid, cohering at the base on the inner side, follicular: seeds 2.—A tortuous, low tree; leaves *rough, stiff and papery;* flowers *white, arranged in lateral, compound racemes.*

4. **C. americana,** *L.—Aubl. t.* 232. Stem usually 8′–10′ high, but there occur dwarfish shrub-forms, scarcely 2′ high; leaves oval, crenate or repand, very rough on the upper side; limb produced along the top of the petiole; flowers of a disagreeable smell.—HAB. Trinidad!, *Cr.;* [Panama! to Brazil!, Isla de Piños, near Cuba].

4. DOLIOCARPUS, *Rol.*

Sepals 5. *Stamens* indefinite: anther-cells minute, divergent. *Carpel* 1. *Pericarp* baccate: seeds 1–2, ascending.—Shrubs *usually scandent;* leaves *without asperities;* flowers *fascicled, lateral.*

5. **D. semidentatus,** *Garcke!* *Leaves* elliptical or elliptical-oblong, pointleted, *serrate above the middle*, with the serratures mucronate, and terminating the primary veins, glabrous and polished above, *hairy beneath* (at least on the ribs): primary veins 12–16, prominent beneath; *flower-fascicles equalling the petiole*, hairy; sepals subequal; berry globose, glabrous.—Tetracera cuspidata, *Mey.!* Delima dasyphylla, *Miq.*—A scandent shrub; leaves leathery (usually 6″ long).—HAB. Trinidad!, *Cr.;* [Panama!, Guiana!].

6. **D. Calinea,** *Gmel.* *Leaves* oblong, pointed, *subentire, glabrous*, or with a few appressed hairs on the ribs beneath; primary veins 6–8, prominent beneath; *flowers densely glomerate;* pedicels hairy, exceeded by the petiole; *sepals* 5, *two exterior smaller;* berry globose, glabrous.—*Aubl. t.* 221.—D. brevipedicellatus, *Garcke!:* with larger serratures above the middle.—A scandent shrub; leaves (3″–4″ long) either quite entire, or with a few serratures above the middle, shining beneath, with the secondary veins prominulous; petiole 4‴–2‴ long; flowers white, polygamous; three larger sepals rounded (1½‴ diam.), glabrous. —HAB. Trinidad!, *Cr.;* [Guiana!, Pará!].

III. MAGNOLIACEÆ.

Flower-organs distinct from each other; outer whorls arranged in a ternary order. *Sepals* deciduous. *Embryo* minute, included in the top of the endosperm.—Leaves *entire, minutely dotted, mostly with caducous, sheathing stipules.*

The Order is characterized by aromatic properties, and for these the Colonial physicians make use of *Talauma.*

1. TALAUMA, *Juss.*

Sepals 3, coloured. *Petals* 6–12. *Stamens* indefinite. *Carpels* 1–2-seeded, spicate, at length cohering and forming a strobile, which opens by the irregular rupture of its carpellary covering.—High trees; leaves *coriaceous;* flowers *large, terminal, solitary.*

1. **T. Plumieri,** *DC.* *Leaves* oval-oblong, glabrous; *petals* 10–12; *strobile* ovoid, with the rhachis (retaining the seeds) deeply excavated: carpels ovate, bluntish.—*Desc. Fl.* 2. *t.* 103.—Magnolia, *Sw.!*—A tree, often 80′ high; leaves variable in breadth (5″–3″, length 6″), rounded or shortly cuneate at the base; petals white, odorous.—HAB. Dominica!, S. Lucia!, in woods, chiefly on riverbanks; [French Caribb. Isl.].

IV. ANONACEÆ.

Flower-organs mostly distinct from each other. *Sepals* 3. *Petals* 6, rarely reduced to

3 (valvate in the West Indian genera). *Anther-cells* lateral or extrorse. *Endosperm* ruminate, including in its top the minute embryo.—Woody plants; leaves *entire, without stipules.*

The Order has the same aromatic properties as the *Magnoliaceæ*. The seeds of *Monodora* (Calabash Nutmeg*) are compared with the Nutmeg. The wood of *Xylopia* is called Bitter-wood: the carpids of *X. jamaicensis* were found bitter and aromatic by Dr. Alexander.

The fleshy syncarpia of the *Anoneæ* are devoid of aroma, but as eatable fruits they are known as Custard-apples. Some of the most remarkable of these were indigenous in the West Indian Islands, but are now cultivated in all tropical countries; *Anona squamosa* (Sweetsop) and *A. muricata* (Soursop) still grow wild in Jamaica; *A. Cherimolia* was introduced from the Andes. The fruits of some *Anonæ* are not eatable: *A. montana* from its dryness, *A. reticulata* and *A. palustris* from their disagreeable taste. *A. reticulata* is, however, a renowned specific against dysentery; and the seeds of the different species are used to kill vermin. In the fruit of *A. palustris*, which affords a choice food to reptiles and crustacea, a narcotic principle was believed to exist; but this is denied by Martius.

The wood of *Anonaceæ* is light and tough; it is used for several purposes, especially that from *Rollinia* and *Oxandra* (Lancewood), and that of *Anona palustris* (Corkwood) is a substitute for Cork.

TRIBE I. *ANONEÆ.—Carpels at length cohering and forming a cone-like syncarpium.—The pollen in a number of species coheres in a peculiar way, so as to form moniliform pollinaria.*

1. ANONA, *L.*

Petals 6–3, distinct. *Stamens* indefinite; connective produced beyond the extrorse anther-cells. *Carpids* one-seeded, united in a fleshy syncarpium.—Trees *or* shrubs *of American origin;* leaves *more or less dotted;* flowers *terminal or lateral, and opposite to a leaf.*

The specimens in herbaria afford no good opportunity for ascertaining the amount of variability in the characters of species; but I conclude that no reliance can be laid upon the form of leaves, the size and colour of flowers, and not much upon the down.

Sect. 1. GUANABANI.—*Petals* 6, *the interior conspicuous. Leaves evergreen.*

* *Exterior petals pointed, scarcely exceeding the interior series.*

1. **A. muricata,** *L.* Leaves oblong, at length glabrous; *exterior petals* broad-ovate, *pointed, subcordate at the base,* scarcely exceeding the interior, these rounded; *syncarpium* irregularly *conical,* blunt, areolated: the areoles produced into a fleshy, recurved spine.—*Sl. t.* 225; *Jacq. Amer. Pict. t.* 161; *Tuss. Fl.* 2. *t.* 24; *Desc. Fl.* 2. *t.* 81.—A low tree, 8′–20′ high; petals 1″–2″ long, exterior yellowish or greenish, interior yellow or red; syncarpium (6″–8″ long) yellowish-green, often incurved: pulp white; seeds black or yellow. (*Rich.*)—HAB. Jamaica and Caribbean Islands!, spontaneously and common on pastures: [it ranges through tropical America, but on the continent is perhaps only cultivated or naturalized].

2. **A. montana,** *Macf.* Leaves oblong, at length glabrous; *exterior petals* broad-ovate, *pointed,* tomentose, a little exceeding the interior, these rounded; *syncarpium globose,* areolated: the areoles produced into a minute, fleshy spinule.—*Plum. Ed. Burm. t.* 143. *f.* 1.—A. muricata, β, *Dun.*—A low tree, 15′–20′ high; petals 1″ long, exterior greenish, interior yellow, syncarpium (4″–5″ diam.) not eatable.—HAB. Jamaica!: *March,* in woods; Antigua!; [Guadeloupe!, Guiana!].

3. **A. laurifolia,** *Dun.* Leaves lanceolate-oblong, glabrous; *exterior petals* broad-ovate, *pointed, subcordate at the base,* a little exceeding the interior, these rounded; *syncarpium conical,* blunt, *smooth* and without spines.—*Catesb. Carol.* 2. *t.* 67.—A shrub, 10′–12′ high; petals 1″ long, exterior greenish on the back. I have only seen an incomplete specimen of this species, from Cuba, and the diagnosis is partly supplied from the figure quoted.—HAB. Jamaica, S. Ann's (*M'Nab*); Bahamas, *e.g.* Eleuthera (*Catesb.*); [Cuba!]. According to a statement in the 'Botanical Register' (t. 1328), this ranges throughout tropical America, and the plant figured there was introduced from Maranhão; that figure, however, may be-

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* The origin of this precious substance, which is imported from the Delta of the Niger, will be discussed hereafter, and the attention of traders may be directed to this valuable product of Africa.

long to another species, as *A. laurifolia* has been omitted in Martius's 'Flora Brasiliensis,' the figure further differing by its yellow flowers from that of Catesby, and the fruit has not been observed. Catesby's other figure (l.c. t. 64), which is the only existing authority for *A. glabra*, L., has no flower nor habitat (so that the common assertion that it was a native of Carolina, is only an old mistake), but the fruit is quite the same with that of t. 67, of which it is probably only a broader-leaved form. But as De Candolle, under the head of *A. glabra*, has described the flowers of another species, with blunt petals, which was perhaps nothing but *A. palustris*, the Linnæan name of *A. glabra*, instead of being substituted for *A. laurifolia*, is better entirely suppressed.

** *Exterior petals exceeding the interior series.*

4. **A. palustris,** *L.* Leaves oblong or elliptical, pointed, glabrous; *exterior petals ovate, bluntish*, exceeding the interior, these oblong; *syncarpium* ovate-globose, *smooth*, slightly areolated.—*Bot. Mag. t.* 4226.—A low tree, 6′–15′ high; exterior petals ½″ long, yellow, with a red blotch at the base within, interior almost wholly red on the inner side; syncarpium (2″ diam.) yellowish: pulp golden-yellow; seeds yellow.—HAB. Jamaica!, *Wils.*, on the marshy seashore and river-banks; Antigua!, *Nichols;* [Cuba! to Rio Janiero, along the coast; Niger!].

A. mucosa, Jacq. Leaves oblong, taper-pointed, glabrous; *exterior petals oblong, blunt,* double the length of the interior, these rounded; *syncarpium* subglobose, *tuberculate:* tubercles fleshy, rounded, somewhat gibbous.—*Tuss. Fl.* 1. *t.* 28.—A. obtusiflora, *Tuss.*—A low tree; exterior petals ½″–1″ long, greenish, interior reddish; syncarpium (4″ diam.) greenish: seeds black.—HAB. [Guadeloupe!, Martinique; Guiana].

Sect. 2. ATTA.—*Petals 3, the interior series being reduced to minute scales, or wanting. Leaves somewhat deciduous.* (*Macf.*)

5. **A. sericea,** *Dun.* Leaves oblong, downy beneath with appressed, minute hairs; *petals broad-ovate,* thick, bluntish, downy; *syncarpium* globose, *tuberculate:* tubercles hooked.—*Dun. Anon. t.* 5.—A low tree, 10′–20′ high; petals ½″ long; syncarpium (1″ diam.) tomentose.—HAB. Jamaica!, *Alex.*, *Wils.*, in the eastern districts; [Guiana!, equatorial Brazil!].

6. **A. squamosa,** *L.* Leaves lanceolate-oblong, glaucous and pubescent beneath, or glabrate; *petals oblong-linear,* keeled on the inner side, blunt; *syncarpium* ovoid-globose, *tuberculate:* tubercles prominent, fleshy, rounded.—*Sl. t.* 227; *Jacq. Ic. Amer. Pict. t.* 161; *Tuss. Fl.* 3. *t.* 4; *Bot. Mag. t.* 3095.—A. cinerea, *Dun.* (*t.* 8). A. bullata, *Rich.* (*Fl. Cub. t.* 5), seems to be the same pubescent form.—A low tree or shrub, about 15′–20′ high; leaves more dotted than in the two following species, variable in the form and in the down; petals (8‴–12‴ long, 1‴–2‴ broad) greenish, excavated at the base on the inner side, with the excavation purple; fruit 3″ diam.: tubercles distinct from each other, 5‴–2‴ diam., yellowish-green; pulp white, with a tinge of yellow; seeds dark-brown.—HAB. Jamaica!, *M'Nab,* spontaneously in the dry southern plains; [Cuba to equatorial Brazil].

7*. **A. Cherimolia,** *Mill.* *Leaves* elliptical or oblong, *velvety beneath;* petals oblong-linear, keeled on the inner side, velvety; syncarpium ovate, minutely tuberculate.—*Bot. Mag. t.* 2011.—A low tree, usually 15′ high. I have not examined the ripe fruit: in a younger state the tubercles are not contiguous, as in *A. squamosa,* and the covering is said to present at length an intermediate character between *A. squamosa* and *A. reticulata;* "pulp white, and seeds black."—HAB. Naturalized in Jamaica, and in the Caribbean Islands, *e.g.* S. Lucia!, *Anders.;* [spontaneous from Peru to Mexico!].

8. **A. reticulata,** *L.* Leaves oblong or oblong-lanceolate, roughish beneath, or at length smooth; petals oblong-linear, keeled on the inner side; *syncarpium* globose, *smooth,* and *slightly areolated.*—*Sl. t.* 226; *Tuss. Fl.* 1. *t.* 29; *Desc. Fl.* 2. *t.* 82; *Bot. Mag. t.* 2911, 2912.—A low tree, 15′–20′ high; petals of the two preceding species greenish, and with a purple, excavated blotch; fruit similar to an orange, 4″ diam., brownish-yellow: pulp yellowish-white; seeds dark-brown.—The leaves are so variable, that I have seen a form where they are lanceolate-linear (6″ long, and 8‴ broad).—HAB. Jamaica!, *Macf.;* S. Vincent!, *Guild.;* [Guadeloupe!].

2. ROLLINIA, *St. Hil.*

Petals cohering at the base, three exterior forming a vertical segment, three interior re-

duced to scales, or obsolete. *Carpids* one-seeded, united in a fleshy syncarpium.—Trees *or* shrubs; flowers *terminal or lateral;* petals *tomentose:* tube *globose.*

9. **R. Sieberi,** *A. DC.* Leaves oblong, strigillose beneath: veins prominent; *segments of corolla oblong-ovate,* rounded, subtruncate at the top, divergent or incurved.—*A. DC. in Mém. Genève,* 5. *t.* 2*b.*—Anona reticulata, *Sieb. Hb. Trin. n.* 7 *b* !—A tree; leaves pointed or bluntish at both ends; lateral peduncles 1–5-flowered; segments of corolla 6‴ long and 2½‴ broad, either horizontally divergent or (perhaps in a younger state) incurved-ascending. —Hab. Trinidad!, *Sieb.;* S. Vincent!, *Guild.;* [Mexico, in the province of Teapa].

10. **R. multiflora,** *Splitgerb.!* (*not Miq.*) Leaves oblong, leathery, glabrate and smooth beneath: veins delicate, scarcely or not at all prominent; *segments of corolla* short, *obovate,* horizontally divergent; syncarpium globose.—R. glaucescens, *Miq.!* (*in Pl. Hostm. n.* 967). R. resinosa, *Spruce!* (*ej. Coll. n.* 1225).—A small tree, 16′–30′ high; leaves polished, pointed or bluntish, rounded at the base; lateral peduncles 2–5-flowered; segments of corolla 4‴–5‴ long, 3‴–4‴ broad.—The wood is used for spears and rafters.—Hab. Trinidad!, *Lockh., Cr.,* in mountain woods; [Guiana!, equatorial Brazil!].

Tribe II. *XYLOPIEÆ.—Carpels distinct. Petals valvate.*

3. XYLOPIA, *L.*

Sepals connected in a tube. *Petals* linear, thick, exterior concave, interior somewhat shorter, keeled on the inner side. *Stamens* indefinite, inserted upon a hollow disc, including the ovaries; connective truncate. *Ovaries* 2–∞, distinct: styles connivent and forming a conical body: ovules 2–6, sutural. *Carpids* usually stalked, subbaccate or at length dehiscent, torulose by spurious horizontal dissepiments separating the seeds, or one-seeded.—Trees *or* shrubs; flowers *axillary, solitary or fascicled, usually silky.*

11. **X. jamaicensis,** *Griseb. Leaves lanceolate-linear, taper-pointed;* upper bracteole partly involving the calyx-tube; calyx cupuliform, pubescent, three-lobed to the middle, four times shorter than the silky corolla: lobes rounded, bluntish; *carpids* 2, compressed-ovoid, *sessile,* 5-4-seeded.—*Br. Jam. t.* 5. *f.* 2.—X. muricata, *L.:* this name cannot be adopted, as taken from a character not existing, the carpids not being muricate, but perfectly smooth, or scarcely somewhat pimpled.—A tree, 15′–20′ high; leaves 3″–1½″ long, 6‴ broad, tapering into a narrow (sometimes bluntish) point, glabrous above, pubescent or nearly glabrous beneath; exterior petals 4‴ long; carpids 10‴–12‴ long, 8‴ broad, 3‴ thick, glabrous, woody. —X. salicifolia, *Kth.* (X. frutescens, *Aubl. Gartn.*), of the southern Continent, is very similar, but has 5–10 ovaries, and the carpids obovate and stalked, much smaller, usually two-seeded, acrid-aromatic (*Mart.*), while they are bitter in the West Indian species.—Hab. Jamaica!, *Al., March, e.g.* S. Ann's.

12. **X. glabra,** *L. Leaves lanceolate, taper-pointed;* bracteoles somewhat remote from the calyx, deciduous; calyx cupuliform, silky and glabrescent, three-lobed to the middle, four times shorter than the silky corolla: lobes rounded, bluntish; *carpids two.—Dun. Anon. t.* 19.—A tree; leaves 2″–3″ long, 1″ broad, downy beneath with appressed hairs in the younger state: point bluntish, sometimes emarginate; flowers solitary or fascicled; exterior petals 4‴–6‴ long.—Hab. Jamaica!, *Al.;* Barbadoes; [Venezuela!, Guiana].

13. **X. grandiflora,** *Aubl. Leaves oblong-lanceolate, pointed;* upper bracteole partly involving the calyx-tube, with the flowers silky; calyx shortly campanulate, tridentate (or trifid), 4–6 times shorter than the corolla: teeth pointed; carpids stalked, incurved-oblong, subcylindrical, 2–4-seeded.—*Dun. Anon. t.* 21, 22; *Rich. Cub. t.* 6.—Unona acutiflora, *Dun.* U. xylopioides, *Dun.* X. longifolia, *A. DC.* X. cubensis, *Rich.* A tree; leaves 3″–6″ long, 1″–2″ broad; exterior petals 8‴–16‴ long; carpids 8‴ long, 3‴ broad, blunt, rounded at the base towards the stalk, which is 2‴ long.—Hab. Jamaica!, Trinidad!, *Cr.;* [Cuba; Panama! to Brazil!].

4. GUATTERIA, *R. P.*

Sepals cohering at the base. *Petals* flat. *Stamens* indefinite: connective truncate. *Ovaries* distinct: ovule single, erect. *Carpids* stalked.—Trees *or* shrubs; flowers *axillary, rarely lateral.*

14. **G. Ouregou,** *Dun.* Leaves obovate-oblong, cuspidate, cuneate at the base, shining above, glabrescent beneath, with the veins prominent; peduncles short, 2–4, axillary; calyx-segments triangular, pointed; *petals rusty-velvety, obovate,* interior longer; *carpids ovoid,* provided with a long, slender stalk.—*Aubl. t.* 244.—Anona chrysopetala, *Steud.!, in Pl. Hostm.*—A high tree; leaves 6″–12″ long; interior petals 6‴ long, excrescent; carpids indefinite, 4‴ long: stalk equalling or exceeding them.—HAB. Caribbean Islands!; [S. Thomas!, Guiana!, equatorial Brazil!].

5. OXANDRA, *Rich.*

Sepals cohering at the base. *Petals* flat. *Stamens* 10–20: connective produced above and beyond the extrorse anther-cells into a ligulate appendage. *Ovaries* distinct: ovule single, erect. *Carpids* indehiscent.—Trees; leaves *glabrous;* flowers *axillary.*

15. **O. virgata,** *Rich.* Leaves lanceolate-elliptical or lanceolate; flowers subsessile, subsolitary; exterior petals obovate; *carpids* ovoid-globose, *very shortly stalked.*—*Dun. Anon. t.* 31.—Uvaria, *Sw.* Guatteria, *Dun.*—A slender tree or high shrub; leaves 1½″–2″ long, 8‴–10‴ broad; flowers small, whitish; ovaries 6–12; carpids by abortion 4–1, 4‴ long, 3‴ diam.: stalk ½‴ long.—HAB. Jamaica!, on the mountain woods of the western districts: *March;* [Cuba!, Haiti].

16. **O. laurifolia,** *Rich.* Leaves oblong; flowers peduncled, fascicled, or solitary; exterior petals oblong; *carpids* ovoid, *stalked.*—*Dun. Anon. t.* 32; *Rich. Fl. Cub. t.* 8.—Uvaria, *Sw.* Guatteria, *Dun.*—A high tree; leaves 3″–5″ long, 1½″–2″ broad; flowers 4‴–5‴ long, white; ovaries 5–8; carpids 8‴ long, double the length of the stalk, or more.—HAB. Jamaica!, *Hb. Benth.*, in the mountain woods of the central districts; [Cuba! to Portorico].

6. ANAXAGOREA, *St. Hil.*

Sepals cohering at the base. *Petals* flat. *Stamens* indefinite: connective shortly produced. *Ovaries* distinct; ovules 2, erect. *Follicles* tapering at the base into a clavate stalk.—Trees *or* shrubs; flowers *small, axillary or lateral.*

17. **A. acuminata,** *St. Hil.* Leaves oblong, abruptly tapering into a narrow point, glabrous: *principal veins connected near the margin;* flowers axillary; follicles about twelve, obovate-ovoid, mucronate, equalling the stalk.—*Dun. Anon. t.* 16.—Xylopia, *Dun.*—A small or middle-sized tree: leaves usually 6″ long, 2″ broad; follicles 6‴ long, 4‴ diam.—HAB. Trinidad!, *Prd.*, in the Maraval Valley; [Guiana!].

7*. CANANGA, *Rumph.*

Petals elongated, flat. *Stamens* indefinite: connective produced above and beyond the extrorse anther-cells into an ovate, pointed appendage. *Ovaries* distinct: ovules indefinite, biserial. *Carpids* baccate, stalked: seeds pitted, the inner layer of the testa penetrating into the albumen by means of sharp tubercles.—A high tree; flowers *large, downy, fascicled in the axils.*

18*. **C. odorata,** *J. Hook., Tayl.* Leaves oblong, taper-pointed, membranous, glabrescent.—*Deless. Ic. t.* 88.—Unona odorata *and* leptopetala, *Dun.*—HAB. Naturalized in Jamaica!, *Al., March;* [introduced from the East Indies].—The Canang of Descourtilz (*Fl.* 6. *t.* 428) is another plant, the *Xylopia aromatica,* Mart., the existence of which in the West Indies is doubtful.

8*. MONODORA, *Dun.*

Petals 6, exterior oblong, undulated; interior cordate, cohering at the base, connivent. *Stamens,* indefinite: anthers oval, sessile. *Ovary* single: ovules indefinite. *Pericarpium* baccate.—A tree, *with large, fragrant* flowers.

This genus, from its large anthers, would belong to the *Meliuseæ* of J. Hooker and Thomson's 'Flora Indica.'

19*. **M. Myristica,** *Dun.*—*Bot. Mag. t.* 3059; *Beauv. Fl. d'Oware,* 1. *t.* 16 (*exclus. fruct.*).—Xylopia undulata, *P. B.* (*excl. fr.*). Unona, *Dun.* Habzelia, *A. DC.*—A low tree, about 15′ high; leaves oblong; peduncles lateral, elongated, pendulous, with a bract above

the middle; exterior petals yellow, and variegated with purple spots, interior half as long, tomentose-ciliated, whitish externally.—Hab. Formerly introduced into Jamaica, the specimens in the Hookerian Herbarium, dating from 1830, but now perhaps extinct. Mr. March states, in a letter, that the two trees recorded in Macfadyen's Flora, have been lost, but that it may be found still at the old Botanic Garden, S. Andrew's, where it was at one time known to exist.—R. Brown was of the opinion that the Calabash Nutmeg might have been introduced by the Negroes from the west coast of Africa, and Sir W. Hooker led me to inquire whether the *Xylopia undulata* of Palisot de Beauvois' 'Flore d'Oware' (*Habzelia*, A. DC.) was not the same plant. This, upon R. Brown's supposition that by mistake the misplaced fruit of another *Anonacea* (namely the *Habzelia æthiopica*) was confounded with it, and figured as its product, would be a correct view of the matter, the remarkable undulate outer, and cordate inner petals being the same; and Richard, who has examined Beauvois' flower again (*Fl. Cub.* 1. *p.* 54) having found in it apparently a single pistil. I had no opportunity of examining the African plant myself, but it appears that the above supposition can be supported, or rather, proved, by the text of the 'Flore d'Oware' itself. The author states that he observed the fruits in the markets of the Guinea coast, and that afterwards he found the tree flowering and bearing *fruits of a former year*, when he travelled in the interior of Oware, seventy or eighty leagues from the coast. Now the fruit which he figures, though indeed in connection with the flowering branch, is not a remnant of a former year, but a well-developed, just ripe system of carpids, quite similar to those of *Habzelia æthiopica*, which are known to have been common in the African market. From his own drawing, therefore, it is evident that Beauvois joined a fruit which he had seen on the coast, with a flower observed at a later period, and still existing, without fruit, in his collection: for A. De Candolle, as well as Richard, who have seen his specimens, found them only in flower. These are the facts, confirming the conclusion to which R. Brown long ago was led by his own sagacity.

V. MYRISTICEÆ.

Diœcious, apetalous *flowers*. *Endosperm* ruminate, including in its top the minute embryo. —Trees *or* shrubs; leaves *entire, without stipules*.

The aromatic properties of this Order are known from the Nutmeg (*Myristica fragrans*), but in the indigenous species of America, though always present, they are not developed in such an eminent degree.

1. MYRISTICA, *L.*

Sepals usually 3, valvate, cohering. *Anther-cells* extrorse, adnate to a monadelphous tube. *Ovary* single: ovule 1, erect. *Pericarp* baccate: seed enveloped in a branched aril.—Inflorescence *axillary*.

Sect. 1. Eumyristica.—*Anthers* 9–18, *linear: column cylindrical, shortly stalked. Axils few- or one-flowered.* (Asiatic forms.)

1*. **M. fragrans,** *Houtt.* Leaves elliptical-oblong, cuspidate, glabrate: 8–10 pairs of primary veins; flowers drooping, male corymbose, female solitary; calyx ovoid, trifid; *anthers* 9–12; berry ovoid-globose.—*Desc. Fl.* 8. *t.* 561.—M. moschata, *Thunb.*—A tree, about 30′ high.—Hab. Naturalized in Jamaica, and in the Caribbean Islands! [introduced from the Moluccan Archipelago].

Sect. 2. Virola.—*Anthers usually* 3, *linear: column cylindrical, stalked. Axillary panicles: flowers small, fascicled.*

2. **M. surinamensis,** *Roland.* Leaves linear-oblong, glabrate, rusty beneath: 24–30 pairs of primary veins; fascicles before flowering involved in a large bract: single flowers ebracteolate; calyx infundibuliform, trifid; *anthers* 3; berry globose, longitudinally keeled. —*Plukn. Alm. t.* 250. *f.* 6: a leaf.—M. fatua, *Sw.*—A tree, 60′ high; leaves variable in breadth (4″–8″ long, 8‴–2″ broad), either rounded or pointed at the base, usually cuspidate: petiole 2‴ long; branches of panicle divaricated: fascicles remote, 5–15-flowered; calyx externally downy, internally glabrous, 1‴ long, white; berry 6‴–8‴ diam.—Hab. S. Vincent!, *Guild.*; Tobago, Trinidad!, *Prd.*, in woods; [Guiana!, equatorial Brazil!].

VI. MONIMIEÆ.

Flowers mostly unisexual, apetalous. *Stamens* perigynous. *Carpels* distinct, indefinite: ovule single. *Endosperm* including in its top the minute embryo.—Woody plants; leaves *not divided, mostly opposite, without stipules.*

The aromatic properties are the same as in the preceding Orders.

1. CITROSMA, *R. P.*

(Siparuna, *Aubl.*)

Flowers unisexual, apetalous. *Calyx* divided: the tube filled up by the developed torus (velum), perforated at the top. *Stamens* scattered over the cavity of the torus, exserted from its mouth: anthers minute, bilocular, introrse, dehiscent by valves. *Ovaries* included in special cavities of the velum, with the style exserted: ovule erect. *Carpids* subdrupaceous, included in the baccate calyx-tube, free. *Cotyledons* divaricated; radicle inferior.—Shrubs *or* trees; leaves *dotted;* cymes *axillary.*

1. **C. glabrescens,** *Prl.* Glabrescent (by the disappearance of stellate hairs); *leaves* opposite, elliptical-oblong, *crenate* and repand; *cymes diœcious,* fasciculiform, equalling the petiole; calyx 4–5-lobed: lobes oblong, blunt; velum glandular; stamens about 10; carpels 5–10: styles shortly exserted.—A tree; leaves membranaceous, 4″–6″ long, bluntish or pointed: crenatures often ciliated by single tufts of long hairs.—Hab. Dominica!, *Imr.*, in the mountains; S. Vincent!, *Guild.;* [Martinique, *Sieb. Hb. Mart.* 284, 286].

2. **C. guianensis,** *Tul.* Glabrescent (by the disappearance of furfuraceous, stellate down); *leaves* opposite, oblong, *quite entire; cymes monœcious,* contracted; calyx truncate, subentire or obsoletely 4–6-crenate; stamens 6–12; carpels of the same number: styles long, exserted, agglutinated.—*Aubl. t.* 333.—Siparuna, *Aubl.*—Sip. sp., *Cr. in Linnæa.* 20. *p.* 113!—A shrub, 8′–10′ high; leaves leathery, 5″–6″ long, blunt or pointed: petiole equalling the cymes, or sometimes exceeded by them; cymes either unisexual, or the male ones bearing some female flowers at their base: they are shorter and more compound in my specimens and in Crueger's description than in that of Tulasne, who states the species to be variable; flowers small, green; berry "yellow," size of a cherry.—Hab. Trinidad!, *e. g.* in S. Ann's Valley, *Prd., Cr.;* [Panama! to the southern tropic in Brazil].

2. MOLLINEDIA, *R. P.*

(Tetratome, *Pœpp., Endl.*)

Flowers diœcious, apetalous. *Calyx* 4-lobed. *Stamens* indefinite, scattered over the torus, clothing the interior surface of the calyx-tube: anther-cells lateral, and united at the top of the connective, dehiscent by a common, lateral and terminal fissure. *Ovaries* inserted at the bottom of the calyx-tube: ovule pendulous. *Carpids* drupaceous, supported by the base of the calyx-tube, the upper part of which falls off by a circumscissile rupture. *Cotyledons* contiguous; radicle superior.—Trees *or* shrubs; leaves *with a few distant serratures;* cymes *axillary or terminal, few-flowered.*

3. **M. laurina,** *Tul.* Branches glabrescent (by the disappearance of a transient, short, silky down); *leaves* elliptical-oblong or lanceolate-oblong, pointed, *glabrous,* dotted: teeth minute, distant above the middle; inflorescence axillary or lateral; male cymes usually three-flowered, peduncled: flowers equalling the pedicel; calyx-lobes broad-ovate, rounded (interior sometimes with a subulate point); stamens 24 or more; carpids 5–8.—Tetratomes sp., *Cr.* (l.c. p. 114)!—A highly fragrant shrub (*Pd.*); leaves 4″–6″ long, archnerved: primary veins distant, delicate; peduncles three times exceeding the petiole; flowers fragrant; male calyx externally pubescent; female inflorescence similar, but only the terminal flower ripened in our specimens; drupes ovate-oblong, bluntish.—Hab. Trinidad!, *Pd., Cr., e. g.* in woods between Arima and Mount Tamana; [Cayenne!, Brazil, as far as Rio de Janeiro].

VII. MENISPERMEÆ.

Flowers unisexual: organs mostly distinct from each other, and arranged in a ternary or

a binary order. *Stamens* opposite to the corolla (if petals are present, and of the same number). *Ovaries* distinct: ovules single, lateral. *Carpids* drupaceous, often incurved: embryo elongated, usually included by an endosperm.—Vines; leaves *mostly palmatinerved, without stipules;* flowers *small, arranged in axillary racemes or panicles.*

This Order affords different alkaloids, some of them very poisonous, and besides a bitter principle, highly esteemed in medicine; the root of *Cissampelos Pareira* (*Pareira brava*) is employed against various diseases, and especially an antidote to the bite of serpents. The fruit of *Abuta* (which bears the same vulgar name) is said to have similar properties.

TRIBE I. *COCCULEÆ.—Carpels* 3 (–12), *at length campylotropous. Embryo enclosed by the horseshoe-formed endosperm: radicle pointing towards the suprabasilar rudiment of the style; cotyledons linear, contiguous.*

1. COCCULUS, *DC.*

(Chondodendron, *R. P.* Anelasma, *Miers, partim.* Hyperbæna, *Miers.*)

Sepals 6, biserial. *Petals* 6. ♂: *Stamens* 6. ♀: *Ovaries* 3. *Drupes* compressed. *Seed* bent round the projecting plate of the endocarp: endosperm fleshy, not ruminate; embryo annular, cylindrical, equalling almost the length of the endosperm, and included in its central channel.—Woody vines; flowers *arranged in axillary racemes or racemose panicles.*

The character of the seed is taken from other species, that of the two West Indian species being still unknown.

Sect. 1. HYPERBÆNA.—*Anthers (originally 4-celled) bilobed and dehiscent by an obliquely lateral and vertically confluent fissure. Styles cylindrical, uncinate.*

1. **C. domingensis,** *DC. Leaves* oblong or elliptical-lanceolate, *glabrous, minutely reticulated by the prominent veinlets:* two principal veins distant from the base; petals equalling the stamens; drupes oval-roundish.—*Deless. Ic.* 1. *t.* 96.—Anelasma, *Miers.* A. jamaicense *and* A. Sellowianum, *Miers!* Hyperbæna mexicana, H. Hostmanni, *and* H. Moricandii, *Miers!* H. Tweedii, *Miers!*—Leaves leathery, quite entire, very variable in size and form, 1″–8″ long: one faint pair of primary veins at the base, but the upper pair more conspicuous and more or less distant from it; male panicles racemose, slender, fascicled, becoming black by drying; petals minute, like spathulate scales, opposite to the calyx and to the central stamens; anthers globose, as long as the thickish filament; drupes 6‴ long, 5‴ broad: projecting plate of the endocarp laminar, reaching from the base beyond the middle; seed unknown.—HAB. Jamaica!, *Fors., Pd., Al.;* [Haiti; and Mexico! to Brazil! as far as Rio Grande do Sul].

Sect. 2. CHONDODENDRON.—*Anthers bilocular: cells distant, dehiscent by a lateral fissure. Styles foliaceous, deflexed.*

The fruit of *Chondodendron* is still unknown, but the differences in the stamens and styles do not as yet justify a generic separation.

2. **C. tamoides,** *DC. Leaves cordate-triangular,* 5–7-nerved, glabrous or minutely pubescent; *racemes* slender, simple, *exceeding the elongated petiole:* flowers distant.—Chondodendron, *Miers.* Ch. hederifolium *and* Ch. scabrum, *Miers!* Cocculus pauper, *Gr.:* a slightly pubescent form of De Candolle's original species, which is glabrous.—Leaves membranaceous, usually 1½″–2″ long: petiole 1″–1½″ long; petals as large as the inner sepals, obovate; anther-cells linear, distant, and separated by the broad connective; ovaries 3: styles obliquely foliaceous.—HAB. Caribbean Islands; [Guadeloupe!; Guiana! to Piauhy!].

TRIBE II. *CISSAMPELIDEÆ.—Carpel solitary. Embryo enclosed by the horseshoe-formed, thin endosperm: cotyledons linear, contiguous.*

2. CISSAMPELOS, *L.*

♂: *Sepals* 4. *Corolla* cupuliform, subentire. *Stamens* 4: anthers transversely dehiscent. ♀: *Sepal* by the combination of two organs solitary, usually emarginate, supported by a bracteole. *Petals* 0. *Ovary* 1: styles 3. *Drupe* with the endocarp compressed.—Vines; *male inflorescence compound-corymbose, female racemose, with the flower-fascicles supported by a bract.*

3. **C. Pareira,** *L.* Downy; leaves cordate-rounded; male corymbs stalked; bracts of

the female racemes exceeding the fascicle, roundish; drupe subglobose, hairy, red.—*Desc. Fl.* 3. *t.* 201.—C. Caapeba, *L.* C. microcarpa, *DC.* C. Kohautiana, *Prl.* C. clematidea, *Prl.*

a. *C. Pareira*, L. Leaves peltate, downy on both sides.

β. *C. microcarpa*, DC. Leaves peltate, glabrescent above and downy beneath.

γ. *C. Caapeba*, L. Leaves petioled at the base, downy, chiefly beneath, or glabrous.—Intermediate forms between all these forms are of common occurrence.—HAB. Jamaica! to Trinidad!: all collectors; [all tropical countries of the world].

VIII. NYMPHÆACEÆ.

Flower-organs distinct from each other, or partly connected by the developing torus. *Petals* and *stamens* mostly indefinite. *Embryo* minute, included in the persistent embryo-sac, lying at the top of the amylaceous perisperm: cotyledons fleshy, surrounding the developed plumule.—Water-plants; leaves *floating, not divided, with the long petiole arising from a creeping root-stock:* vernation *involute;* flowers *large, solitary:* peduncles *extra-axillary.*

The amylum, contained in the seeds and in the root-stocks (*e. g.* of *N. Rudgeana*), exhibits in some cases eatable substances.

1. NYMPHÆA, *L.*

Sepals 4, inferior. *Petals* and *stamens* inserted upon the torus, which clothes and connects the carpels. *Ovules* indefinite, scattered over the interior surface of the carpel. *Seeds* arillate.—Leaves *stipulate.*

Sect. 1. CYANÆA.—*Anthers produced at the top into a long appendage of the connective. Expansion of flowers during the day. Stipules minute, distinct.*

1. **N. ampla,** *DC.* (*exclus. syn. Mey.*). Leaves cordate and a little peltate, sinuate-dentate: network of veins prominent beneath; sepals without prominent nerves; *petals white* (or yellowish-white); exterior stamens much longer than the interior, and with a longer, linear, blunt appendage; *appendages of the stigmas short, conical, pointed.*—*Bot. Mag. t.* 4469.—Nymphæa, *Sp.* 1. *Macf.* N. Lotus, *Lun.*—Leaves glabrous, usually purple beneath, and the sepals with purple lines. Anther-cells scarcely exceeded in breadth by the connective.—The species is exceedingly variable, and there occur many distinct forms, with the appearance of special species, but running into each other by intermediate specimens. The variability is chiefly observable in the sinuosities and teeth of the leaf (which disappear sometimes altogether), and in the size of the flowers. Of the three varieties, distinguished by Planchon, and occurring all of them in the West Indies, *a* (*Plumieri*), with the teeth pointed, and *β* (*Hookeri*) with blunt or wanting sinuosities, cannot be regarded as special varieties; but his *γ* (*Salzmanni*) approaches Macfadyen's form from the Ferry-Lagoon, in Jamaica, which, though presenting the large leaves of the other, may be distinguished by the small size of its flowers.

a. Sepals and petals oblong-lanceolate, bluntish, usually 3″ long; appendages of the exterior anthers 4‴–6‴ long, often broader than the anther itself.—The Jamaica specimens of this form agree exactly with Sir W. Hooker's figure in the Bot. Mag.; but intermediate forms between *a* and *β* are not wanting.

β. parviflora. Sepals and petals oblong, somewhat pointed, scarcely more than 1″ long; appendages of the exterior anthers 2‴ long, as broad as the anther.—HAB. Jamaica!, all collectors; Caribbean Islands; [Texas!, Cuba, and Mexico to Brazil].

Sect. 2. HYDROCALLIS.—*Connective exceeding very shortly the anther-cells in the exterior anthers. Expansion of flowers nocturnal. Stipules connected in a sheath.*

2. **N. Rudgeana,** *Mey.!* Leaves cordate and a little peltate, sinuate-dentate (or entire): nerves somewhat channelled beneath; sepals without prominent nerves; *petals white* (or pale-yellow); connective bluntish at the top; *appendages of the stigmas clavate,* at length circinate-inflexed.—*Desc. Fl.* 8. *t.* 574.—N. blanda, *Planch.!*, *Macf.!*—Petals usually 1″ long, interior pointed. Appendages of the exterior anthers scarcely ½‴ long.—A remarkable variety (*β*) has been considered generally as a distinct species; its chief character, consisting in the different shape of the anther-cells, is not confirmed by my Guadeloupe specimens, which are intermediate between both forms.

a. Petioles glabrous at the top; anther-cells broad-linear, exceeding in breadth the lining connectival margin.

β. amazonum, Mart., Zucc. Petioles encircled at the top by a ring of hairs; anther-cells narrow-linear, equalling in breadth the flat connectival margin.—*Bot. Mag. t.* 4823.—N. alba, *Lun.*—A form of this, with the leaves young and quite entire, is the original specimen of *N. blanda*, Mey.!, agreeing exactly with *N. amazonum*, as figured by Sir W. Hooker; but Meyer's name, applied to a particular form, which is not the same with *N. blanda* of later authors, is perhaps better suppressed altogether.—HAB. Jamaica!, *March* (*a* and *β*); [Guadeloupe!, Guiana!, Brazil].

IX. NELUMBONEÆ.

Flower-organs distinct from each other, indefinite. *Carpids* immersed in special cavities of the torus, which is enlarged above the stamens: ovules 1 (-2), pendulous. *Embryo* exalbuminous: cotyledons fleshy, surrounding the developed plumule.—Water-plants; leaves *peltate, entire, emersed, arising from a creeping root-stock:* vernation *involute;* flowers *large, solitary.*

The use is the same as that of *Nymphæaceæ.*

1. NELUMBIUM, *Juss.*

1. **N. luteum,** *W.* Petals pale-yellow; anthers produced at the top into a linear, recurved appendage.—*As. Gray, Gen. Bor. Amer.* 1. *t.* 40, 41.—N. jamaicense, *DC.* Nymphæa Nelumbo, *Lun.* (*exclus. syn.*).—Leaves exactly peltate: petiole tubercled. The appendage of the anthers sometimes seems to be wanting in this genus, but is only apparently so, falling off by a sort of dehiscence.—The Jamaican specimens are not different from those of the United States; but the bad figures, published by Descourtilz (*Fl.* 8. *t.* 599) and by Tussac (*Fl.* 3. *t.* 23), have probably not been taken from West Indian specimens, for they present pink or rosy flowers, and must be referred to the Asiatic *N. speciosum.*—HAB. Jamaica!, *M'Nab*, in the lagoons of S. Catherine; [eastern territory of the United States!].—I have been told that the original *N. jamaicense*, found in the district of Vere, where it has disappeared since, was believed to produce rosy flowers; but P. Brown says nothing of their colour, and Lunan, who states them to be purple, borrowed his description from Loureiro and Thunberg, and, having made no observations of his own, confounded the *N. jamaicense* with *N. speciosum.*

X. CERATOPHYLLEÆ.

Flowers naked, monœcious. *Carpel* solitary: ovule single, pendulous, atropous. *Embryo* exalbuminous, with a highly developed plumule.—Water-plants; leaves *submersed, whorled, dichotomously divided into capillary segments.*

1. CERATOPHYLLUM, *L.*

1. **C. demersum,** *L.* Nuts, with two spines or tubercles at the base, exceeded by a beak.—*Linnæa*, 11. *t.* 11.—Organs of flowers solitary; male organs amentaceous: anthers dehiscent by a pore.—HAB. Jamaica!, *Pd.*, *March*, common; Trinidad!, *Cr.*; [northern temperate and tropical zones of all continents, *e.g.* Cuba! to Guiana].

XI. PAPAVERACEÆ.

Sepals 2 (-3), caducous. *Stamens* hypogynous. *Pistil* mostly paracarpous. *Embryo* minute, included in the top or axis of the oily endosperm.—Leaves *simple, without stipules.*

The milk of this Order is known to contain either admirable narcotic alkaloids, or acrid principles. It is yellow in *Bocconia*, and becomes so, when exposed to the air, in *Argemone.* The investigations hitherto pursued into the medical properties of this milk and their oily seeds (which are devoid of milk) have, however, given contradictory results.

1. ARGEMONE. *L.*

Sepals 2–3. *Petals* 4–6. *Stamens* indefinite. *Carpels* 4–7: stigmas opposite to the

placentas. *Capsule* unilocular, dehiscent by small valves at the top: intervalvular placentas not produced inwards, united at the top. *Embryo* axile.—*Glaucescent* herbs; leaves *sessile, pinnatifid;* teeth *spinulose.*

1. **A. mexicana,** *L.* Leaves half-clasping, prickly, with white spots; capsule prickly.—*As. Gray, Gen. Bor. Amer.* 1. *t.* 47; *Desc. Fl.* 5. *t.* 380.—Petals large, yellow, usually 6.—Hab. Jamaica!; Caribbean Islands!, common; [tropical America; naturalized in other tropical continents, and in the warm parts of both temperate zones of the globe].

2. BOCCONIA, *L.*

Sepals 2. *Petals* 0. *Stamens* 8–24. *Carpels* 2: style with two stigmas, opposite to the placentas. *Capsule* unilocular, bivalved at the base: intervalvular placentas filiform, united at the top. *Seed* single, erect.—Suffruticose herbs; leaves *petioled;* flowers *paniculate.*

2. **B. frutescens,** *L.* Leaves oval-oblong, sinuate-pinnatifid (uppermost sometimes not divided), glaucescent beneath; panicle pyramidal.—*Sl. t.* 125; *Desc. Fl.* 1. *t.* 54.—Stem 4′–9′ high; leaves 6″–18″ long; panicle often above a foot long.—Hab. Jamaica!, all collectors; Caribbean Islands!, common; [Cuba!; Mexico! to Peru].

XII. CRUCIFERÆ.

Sepals and *petals* 4. *Stamens* hypogynous, mostly 6, four longer. *Pistil* paracarpous. *Fruit* usually bilocular by a placentary, spurious, intervalvular dissepiment. *Embryo* exalbuminous: radicle mostly reflexed.—Plants, *mostly herbaceous;* leaves *simple, without stipules;* flowers *usually racemose, with the bracts suppressed.*

The West Indian species are almost all cultivated pot-herbs, as Cabbage, Turnip, Mustard, Horse-radish, and Radish (*cf. Macf. Fl.*). The famous antiscorbutic properties prevailing in all *Cruciferæ* depend upon a peculiar principle, containing sulphur in its elementary composition. The embryo developes a large quantity of fixed oil in its tissue.

Tribe I. *SILIQUOSÆ.—Fruit elongated, bivalved (silique).*

1. CARDAMINE, *L.*

Silique linear: valves flat, nerveless. *Seeds* uniserial: funicles free. *Cotyledons* accumbent.

1. **C. hirsuta,** *L.* Leaves pinnatisect: segments of the supraradical leaves orbicular, of the upper ones longer and cuneate; stamens usually 4; silique erect: stigma nearly sessile.—C. sylvatica, *Macf.*—Leaves glabrous, but the petiole ciliate towards the base; flowers small, white.—I have not seen this plant from Jamaica, and borrow the diagnosis from Macfadyen's description, which, by the number of stamens, proves that it is not the form called *C. sylvatica*, Lk., in Europe.—Hab. Jamaica, on mountain rocks (*Macf.*); [northern temperate zone, and tropical mountains in all continents].

2. NASTURTIUM, *R. Br.*

Silique oblong-linear: valves convex, almost nerveless. *Seeds* biserial. *Cotyledons* accumbent.

2. **N. officinale,** *R. Br.* Perennial; leaves pinnatisect: segments ovate, repand; petals white, double the length of the calyx: hypogynous glands 4; siliques spreading, equalling their pedicel.—Hab. Jamaica, on the banks of mountain rivulets (*Macf.*); Dominica (*DC.*); [both the temperate zones of the Old World and of Western America; a few highland localities in the tropics, *e.g.* Cuba!].

3*. SISYMBRIUM, *L.*

Silique linear: valves convex, trinerved. *Seeds* uniserial. *Cotyledons* incumbent.

3*. **S. officinale,** *Scop.* Annual, hairy; leaves runcinate; flowers yellow; silique subulate-linear, tapering into the short style: pedicels very short, appressed to the axis and at

length thickened.– HAB. Naturalized in Jamaica, by roadsides in the mountains (*Macf.*); [introduced from Europe].

4. SINAPIS, *L.*

Sepals spreading, equal at the base. *Silique* linear, beaked, sessile: valves convex, 5–1-nerved. *Seeds* uniserial. *Cotyledons* conduplicate.

4. **S. brassicata,** *L.* Annual, glabrous; leaves dissected at the base or not divided, dentate, inferior obovate, superior lanceolate; petals yellow: claws equalling the spreading calyx; siliques cylindrical, torulose, one-nerved and with prominent veins, shortly beaked, suberect upon the spreading pedicel: beak styliform, without a seed.—*Desc. Fl.* 6. *t.* 430; *Willd. Hort. Berol. t.* 14: the form with the leaves not divided.—S. lanceolata, *DC.* S. integrifolia, *W.* S. nigra, *Desc.* (*exclus. descr.*). Raphanus lanceolatus, *W.* (*non Macf.*).—HAB. Caribbean Islands; [Guadeloupe!, S. Croix, tropical Asia].—*S. juncea*, L. (*Jacq. Ht. Vind. t.* 171), is perhaps only a form of this, with lyrate leaves.

TRIBE II. *ANGUSTISEPTÆ.—Fruit (silicle) rounded: dissepiment linear.*

5*. CAPSELLA, *Vent.*

Petals entire. *Silicle* laterally compressed, many-seeded: valves keeled, not winged. *Cotyledons* incumbent.

5*. **C. Bursa-pastoris,** *Moh.* Annual; leaves usually runcinate, superior sagittate, clasping, lanceolate; silicles triangular-obcordate. Petals white.—HAB. Naturalized in Jamaica, in the mountain plantations; [introduced from the Old World, now diffused through both the temperate zones, and scattered in the tropical ones of all the continents].

6. LEPIDIUM, *L.*

Petals entire (or wanting). *Silicle* laterally compressed: valves keeled, usually winged; cells one-seeded.—Flowers *white.*

6. **L. virginicum,** *L.* Annual, glabrous; leaves lanceolate, usually serrate; racemes elongated; flowers diandrous; *silicles* nearly orbicular, *wingless*, emarginate; *cotyledons accumbent.*—*Desc. Fl.* 1. *t.* 41.—L. Iberis, *Desc.* (*not L.*).—HAB. Jamaica!, *Al.*; Antigua!, *Nichols.*; Tobago; [United States].

7*. **L. sativum,** *L.* Annual, glabrous; inferior leaves pinnatisect; racemes elongated; flowers tetradynamous; *silicles* nearly orbicular, *winged* and emarginate at the top; seeds oblong; *cotyledons incumbent.*—*Desc. Fl.* 1. *t.* 42.—HAB. Naturalized in Jamaica (*Macf.*); [introduced from the Levant].

7. SENEBIERA, *Poir.*

Petals entire (or wanting). *Silicles* didymous: cells indehiscent, one-seeded. *Cotyledons* incumbent, and bent transversely.—Racemes *opposite to the leaves.*

8. **S. pinnatifida,** *DC.* Diffuse; leaves pinnatisect; silicles shorter than the pedicel, emarginate at the top and at the base, reticulate-rugose.—HAB. Jamaica (*Macf.*), common in the mountains; [both the temperate zones of America; naturalized in western Europe, in Australia, etc.].

TRIBE III. *LOMENTACEÆ.—Fruit separating transversely into one-celled, one-seeded joints.*

8. CAKILE, *Tournef.*

Sepals erect, the lateral ones gibbous at the base. *Fruit* two-jointed: seed of the upper cell (the beak) erect, of the lower one pendulous. *Cotyledons* accumbent (sometimes obliquely).

9. **C. æqualis,** *L'Hér.* Leaves lanceolate, subentire; flowers whitish; *upper joint of the fruit lanceolate-ensiform*, tapering into the style, *three times the length of the lower cuneate one*, and *equalling it in breadth.*—*Desc. Fl.* 1. *t.* 43; *Tuss. Fl.* 1. *t.* 17.– Bunias Cakile, *Desc.* Cakile cubensis, *Kth.* C. ægyptiaca, *Tuss.* C. maritima, *Rich. Cub.* Ra-

phanus lanceolatus, *Macf.! (non W.)*.—This is probably the species which Asa Gray distinguishes from *C. americana*, Nutt., in the Southern United States. Richard had proposed to reduce both American species to the European *C. maritima*, but I agree with Asa Gray in keeping them distinct by the proportion and shape of the upper fruit-joint: in *C. maritima*, L., it is shorter, compressed, and broader than the lower one; in *C. americana*, Nutt., it is ovate, and equals the lower one in length. The seed of the upper joint shows obliquely accumbent cotyledons in *C. æqualis*, just as Asa Gray has figured them in his Genera (1. *t.* 74); in *C. maritima* I find them not oblique, but this is probably subject to variation.— HAB. Jamaica!, all collectors; S. Vincent!, *Guild.*; Turk Islands!, *Hjalmarson*, on sandy seashores; [Cuba, Guadeloupe].

XIII. CAPPARIDEÆ.

Stamens indefinite, 6 (–4), inserted below the ovary. *Pistil* paracarpous: ovary usually stalked. *Embryo* exalbuminous.

This order resembles *Cruciferæ* in an acrid, antiscorbutic sap, and some *Capparideæ* are used in medicine on that account. A fixed oil is equally contained in their embryo. *Moringa*, a genus anomalous merely by the number of flower-organs, partakes of these principles; the oil of its seeds, which are called Ben-nuts, is drastic. The berry of *Cratæva Tapia* is eatable, though not pleasant.

TRIBE I. *CLEOMEÆ.—Fruit capsular, dehiscent.*

1. CLEOME, *L.*, *R. Br.*

(Gynandropsis, *DC.* Polanisia, *Raf.*)

Sepals and *petals* 4. *Stamens* 6 (–4), indefinite. *Capsule* silique-shaped, bivalved: valves separating from the intervalvular parietal placenta (the replum).—Herbs; leaves *usually palmatisect*; racemes *terminal*.—All the West Indian species are annuals.

Sect. 1. GYMNOGONIA.—*Stamens* 6, *inserted upon the filiform gynophore. Æstivation of the corolla open.*

1. **C. pentaphylla,** *L.* Segments of leaves 5–3 (–7), obovate-lanceolate or elliptical-lanceolate; *petals* obovate, *four times the length of the calyx;* stamens inserted upon the middle of the gynophore.—*Desc. Fl.* 7. *t.* 509; *Bot. Mag. t.* 1681.—Gynandropsis, *DC.* G. triphylla, *DC.* (*quoad Pl. Carib.*). G. palmipes, *DC.*—The leaf-segments vary in their form and in their number; petals whitish, equalling the inferior joint of the gynophore; capsule linear, 2″–3″ long, equalling or exceeding the gynophore.—HAB. Jamaica!, *Dist.*, *Al.*, *March*, common; Bahamas!, *Swains.*; S. Kitts!, *Elsey*; S. Vincent!, *Guild.*; Granada; [all tropical countries; naturalized in the warmer parts of both temperate zones]. There are linguistic reasons for believing it to have emigrated from the Old World.

Sect. 2. GYNANDROPSIS.—*Stamens* 6, *inserted upon the filiform gynophore. Æstivation of the corolla imbricative.*

2. **C. speciosa,** *Kth.* Segments of leaves 7–5, lanceolate; *petals* spathulate, about 10 *times the length of the calyx;* stamens inserted above the base of the gynophore, its upper joint much exceeding the corolla, and somewhat exceeded by the filaments.—*Kth. Nov. Gen.* 5. *t.* 436.—Gynandropsis, *DC.*—The leaf-segments are much longer than in the preceding, and the corolla larger and rosy.—HAB. Jamaica!, *Hb. Benth.*; [Guadeloupe!], probably introduced from the Continent; [Mexico! to Ecuador!].

Sect. 3. PEDICELLARIA.—*Stamens* 6, *inserted upon a conical disc, below the filiform gynophore or the ovary.*

The section *Siliquaria*, restricted by R. Brown to the Old World, differs from this section by wanting the conical disc.

3. **C. pungens,** *W.* Pubescent, often glandular; stipules prickly; segments of leaves 7–5, lanceolate; bracts cordate or ovate; *stamens long, exserted* from the whitish corolla; *ovary much shorter than the gynophore*, but capsule finally almost double the length of it, or more.—*Bot. Mag. t.* 1640.—C. heptaphylla, *Sw.*—A common and very variable weed; the variability affects chiefly the down, the shape of the bracts, and the number and form of the

leaf-segments. The gynophore is 2″–3″ long, but as it does not grow out with the capsule, it is always shorter than this; the diagnosis of authors ("gynophore exceeding the capsule") is wrong, and taken from immature states; the ripe capsule is often 4″ long.

α. Ovary and capsule glabrous.—C. heptaphylla, *Sw. Observ.* C. spinosa, *Macf.*

β. *Swartziana.* Ovary and capsule glandular.—*Willd. Hort. Berol. t.* 18.—C. spinosa, *Sw. Observ.* C. heptaphylla, *DC., Macf.*—HAB. Jamaica!, common in waste places; S. Vincent!, *Guild.;* Trinidad!, *Schack;* [range through the whole of tropical America. In the Brazilian *C. spinosa,* L. (Lond. Journ. of Bot. 2. p. 330), the capsule is longer, and as long as the gynophore].

4. **C. Houstoni,** *R. Br.* Glandular-pubescent; stipules and petioles prickly; segments of leaves 5–3, elliptical-lanceolate; bracts ovate; *stamens scarcely exceeding the* purple *corolla; ovary shortly stalked,* and capsule 6–12 times longer than the gynophore.—*Martyn, Hist. t.* 45.—C. heptaphylla, *Mey. Fl. Esseq.!* C. cubensis, *Rich. Cub.*—Richard published an excellent exposition of the distinctive characters of this confused species, but he did not recognize R. Brown's older name, illustrated by Martyn's good figure. The chief character is the short gynophore, only 2‴–4‴ long in the flower, and not excrescent afterwards. The habit is similar to the preceding.—HAB. Jamaica, *Houst.;* [Cuba!, Guiana!].

5. **C. polygama,** *L. Glabrous; segments of leaves three,* ovate-lanceolate or lanceolate; bracts suppressed; stamens a little exserted from the whitish corolla; *capsule subsessile,* tapering at the base.—*Sl. t.* 124. *f.* 1; *Jacq. Amer. Pict. t.* 262. *f.* 73: a leaf.—C. serrata, *L.* C. triphylla, *Desc.* (*Fl.* 1. *t.* 44: erroneously exhibiting yellow flowers). The name alludes to the upper flowers, which are said to be often sterile and tetrandous. The leaf-segments vary in breadth, and in the margin either entire or serrate.—HAB. Jamaica!, *Dist., M'Nab, Alex., Wils.,* common; [Panama! to Goyaz! and Guayaquil!].

6. **C. aculeata,** *L. Glandular-puberulous;* stipules prickly; flowers axillary, small; *segments of leaves three,* elliptical, cuneate at the base; stamens included; *capsule subsessile,* glabrous.—A diffuse annual; leaves broader than in the preceding, subentire; flowers (2‴ long) scattered: pedicel filiform; capsule 1½″–2″ long: seeds muricate.—HAB. Caribbean Islands; [Martinique!, Guiana].

7. **C. procumbens,** *Jacq.* Glabrous, procumbent; *leaves not divided,* lanceolate, pointed, quite entire; bracts conform, almost exceeded by the distant pedicels; stamens equalling the yellow corolla; capsule subsessile.—*Sl. t.* 123. *f.* 1; *Jacq. Amer. Pict. t.* 181. —Diffuse, usually spithameous; leaves about 6‴ long; petals 2‴ long, purple on drying; capsule 8‴ long, apiculated by the filiform style: valves convex.—HAB. Jamaica!, *Dist., M'Nab, March,* common in dry, sandy pastures; [Haiti].

Sect. 4. RANMANISSA.—*Disc reduced to a ring of glands. Stamens indefinite. Petals shortly clawed.*

8*. **C viscosa,** *L.* (*ex. syn. Martyn*). Glandular; segments of leaves 3 (–5), obovate-lanceolate, equalling the petiole; petals obovate, yellow; *stamens* about *twenty,* equalling the corolla; style short; capsule rough with glandular hairs, sessile: valves convex, striated.—*Martyn, Hist. t.* 25.—Polanisia, *DC.* (*ex. synon.*). P. isocandra, *W. A.:* this does not properly belong to the North American and Mexican *Polanisia,* which forms another section of the genus, distinguished by a unilateral disc, and by long-clawed petals.—HAB. Naturalized in Jamaica!, S. Kitts!, Nevis!, S. Vincent!; [introduced from the Old World, where it ranges from Southern China! to Senegambia].

2*. MORINGA, *Juss.*

Sepals and *petals* 5. *Stamens* 10, inserted upon a cupuliform disc: anthers unilocular. *Capsule* silique-shaped, medianicide, trivalved.—A tree; leaves *decompositi-pinnatisect:* panicles *axillary.*

9*. **M. pterygosperma,** *Gærtn.* Five of the stamens sterile; capsules triquetrous: seeds three-winged.—*Tuss. Fl.* 4. *t.* 16; *Desc. Fl.* 1. *t.* 27.—A low tree, 12′–20′ high; leaves three times pinnatisect, about 1′–2′ long: segments spathulate or elliptical, blunt; petiole bearing glands at its ramifications; flowers whitish; capsule nearly 1′ long.—HAB. Naturalized and common in Jamaica!, *Macf.;* S. Kitts!, S. Vincent!; [introduced from the Old World, where it ranges from the East Indies! to Senegambia!].

TRIBE II. *CAPPAREÆ.—Fruit indehiscent.*

3. TOVARIA, *R. P.*

(Bancroftia, *Macfad.*)

Sepals, petals and *stamens* 8 (–7). *Ovary* sessile: placentas 6 (–8), united in the axis. *Pericarp* baccate.—An annual herb, *suffrutescent at the base and scandent-diffuse;* leaves *ternatisect;* raceme *terminal, elongated, cernuous at the top.*

10. **T. pendula,** *R. P.—R. P. Fl. Peruv.* 3. *t.* 209: an extreme form; *Hook. ic. t.* 664. —Bancroftia diffusa, *Macf.!*—A glabrous plant, several feet high; leaf-segments lanceolate; middle segment longer; petals greenish-white, exceeding the calyx, but variable in their shape and length, bluntish; berry globose. The odour of the herb has been compared with that of *Apium.* — HAB. Jamaica!, *Macf., Pd.*, in the north-eastern mountain woods, among shrubs by the side of water; [Venezuela!; New Granada! at 6000′; Peru].

4. CRATÆVA, *L.*

Sepals and *petals* 4: æstivation of the corolla open. *Stamens* 8—indefinite. *Berry* stalked: placentas 2.—Shrubs *or* low trees; leaves *ternatisect;* racemes *terminal, often polygamous.* Petals *of the American species obverse-lanceolate.*

11. **C. gynandra,** *L.* Segments of leaves ovate, pointed; stamens 20–24, inserted upon the cylindrical disc in the fertile flowers; *berry ovoid-globose, bluntly mucronate.* —*Pluken. Phytogr. t.* 147. *f.* 6.—A tree, 12′–20′ high; leaf-segments variable, glabrous; petals whitish (6‴–8‴ long), three times exceeded by the stamens, which in the male flowers are inserted upon a short, conical disc; gynophore growing out to a great length; berry size of a pigeon's-egg.—HAB. Jamaica!, *Macf.*, common in the plains; S. Vincent!, *Guild.;* [Mexico!, New Granada!, Guiana!].

12. **C. Tapia,** *L.* Segments of leaves broadly ovate, acuminate; stamens 8–16; *berry globose, not mucronate.—Piso, Bras. p.* 69.—A tree, about 20′–30′ high; leaf-segments much larger than in the preceding species; berry size of a small orange.—HAB. Jamaica, on the banks of salt-ponds, *Macf.;* [Guiana!, Brazil].

5. CAPPARIS, *L.*

Sepals and *petals* 4: æstivation of corolla imbricative. *Stamens* 8—indefinite. *Fruit* stalked: placentas 2.—Shrubs *or* trees; leaves *undivided, entire.*

The American species are without prickles: all the West Indian ones present four glands in the bottom of the calyx and opposite to the sepals.

Sect. 1. PSEUDOCRATÆVA.—*Calyx 4-partite: segments valvate. Stamens usually* 8, *inserted upon a short, columnar disc. Berry ovoid.*

13. **C. ferruginea,** *L.* Leaves lanceolate, glabrous above, powdery-pubescent, with stellate down beneath; flowers corymbose, small; segments of calyx (1‴ long) subulate, blunt at the top; *berry ovoid-globose,* downy, double the length of the gynophore.—*Br. Jam. t.* 28. *f.* 1; *Jacq. Amer. Pict. t.* 149.—C. octandra, *Jacq.*—A shrub, dwarfish and compact, or a shrubby tree, 10′–20′ high; branches and inflorescence leprous and tomentose with appressed down; leaves 3″–4″ long: petiole ½‴ long; corymbs stalked, axillary near the top of branches: petals white, oval-oblong, shortly clawed, about 3‴ long, equalling the stamens; berry diam. 6‴–5‴.—HAB. Jamaica!, common on the seashore, *M'Nab, March, Wils., Al.;* [Haiti].

Sect. 2. BREYNIASTRUM.—*Calyx 4-partite, or 4-fid: segments valvate. Fruit silique-shaped.*

14. **C. amygdalina,** *Lam.* Leaves lanceolate-oblong, glabrous above, leprous beneath; flowers corymbose; *calyx* (1‴–1½‴ long) *four times shorter than the* downy *corolla:* lobes lanceolate, blunt, convex and leprous on the back; stamens 16, exserted.—*Br. Jam. t.* 27. *f.* 2; *Jacq. Amer. Pict. t.* 152.—C. Breynia, *L., partim; Jacq.* (*non Sw. nec DC.*).—A shrub, 8′–15′ high; branches and inflorescence covered with whitish-rufescent scales (not downy); leaves 3″–4″ long: petiole 4‴ long; corymbs stalked, axillary near the top of the branches; petals white, oval, very shortly clawed, about 5‴ long, tomentose chiefly on the

back, (while the calyx is only scaly); fruit 9″–10″ long (3‴ diam.), somewhat torulose, rusty-leprous, six times longer than the gynophore.—HAB. Jamaica!, S. Lucia!, S. Vincent!, *Guild.*, chiefly on the seashore; [Mexico!, New Granada!].

Sect. 3. QUADRELLA.—*Sepals distinct, valvate: bud tetragonal, by their margins somewhat revolute. Fruit silique-shaped, dry and opened by rupture.*

15. **C. jamaicensis,** *Jacq.* Leaves lanceolate-oblong or elliptical, glabrous above, leprous beneath; flowers corymbose; *sepals* (4‴ long) ovate, *about half the length of the* leprous *corolla;* stamens 16–32, exserted.—*Br. Jam. t.* 27. *f.* 1; *Jacq. Amer. Pict. t.* 150. —A shrub or shrubby tree, 6′–10′ high; branches and inflorescence densely covered with scales; leaves 2½″–4″ long, shining above, silvery or pale-rusty beneath: petiole 6‴ long; corymbs axillary and terminal; sepals usually somewhat keeled, either pointed or more elliptical and blunt, leprous on the back and downy internally; petals white and at length purpurascent, leprous on the back, glabrous on the interior surface; fruit extremely variable in length (12″–3″), and in proportion to the gynophore, either ten times or only double its length, in the development of the gynophore (6‴–2″), and in the valves either continuous or torulose.

α. *emarginata.* Leaves lanceolate-oblong, emarginate or rounded at the top.—*Rich. Cub. t.* 9.—C. emarginata, *Rich.*—This form is the same with the original type of Jacquin.

β. *siliquosa.* Leaves elliptical or elliptical-lanceolate, pointed.—*Desc. Fl.* 5. *t.* 373.—C. siliquosa, *L.* (*exclus. syn. Pluken.*). C. torulosa, *Sw.:* the form with torulose fruit. C. Breynia, *L., partim; Sw. Observ.; DC.; Macfad.* (*non Jacq.*): the form with almost continuous fruit. C. intermedia, *Kth.* (*ex specim. Cuman.*): a form with a short gynophore, introduced into Barbadoes! C. ferruginea, *Desc.* (*non L.*).—HAB. Jamaica!, *Macfad., Pd., Al., Wils., March* (α, β); S. Lucia, *Anders.;* S. Vincent!, *Guild.;* Barbadoes!; Trinidad!, *Sieb. Trin.* 97; [Venezuela!, Pará!].

Sect. 4 CYNOPHALLA.—*Calyx 4-partite or 4-lobed: divisions imbricate, concave. Fruit usually silique-shaped, baccate, opening by rupture.*

16. **C. cynophallophora,** *L.* Leaves leathery, glabrous, oblong or heteromorphous, blunt, shortly petioled, furnished with an oblong, axillary gland; peduncles few-flowered; *calyx* 4-*partite* (4‴ long): segments roundish; *petals* large, *obovate,* exceeding *three times* the calyx and *exceeded* as much *by the* indefinite *stamens; fruit linear,* exceeding or equalling the gynophore.—*Jacq. Amer. Pict. t.* 145.—C. flexuosa, *L.*—A shrub or tree, 8′–25′ high; branches long, flexuose, sometimes subscandent, glabrous and without scales; leaves 2″–3″ long, occurring in all forms between oblong and orbicular and linear, shining above and opaque beneath: petiole usually 2‴–3‴ long; calyx divided nearly to the base: two exterior sepals smaller; corolla white or pale-rosy; fruit variable in length (7″–3″), in thickness (8‴–4‴), and in proportion to the gynophore (which is 2″–3″ long): valves either continuous or torulose, opened gradually, either on one or on both sides; endocarp red.

α. Leaves oblong, oblong-elliptical or oblong-lanceolate, blunt or emarginate; axillary glands oblong, subtruncate.—*Desc. Fl.* 5. *t.* 355.—C. lævigata, *Mart.* (Bahia: *Salzm.*): a form with narrow, torulose fruits.

β. *latifolia.* Leaves roundish; axillary glands minute or abortive.

γ. *saligna.* Leaves linear or lanceolate-linear.—*Jacq. Amer. Pict. t.* 147: an aberration with hastate leaves.—C. hastata, *L.:* the same. C. saligna, *Vahl.* C. longifolia, *Sw.;* a form with the leaves leprous beneath, which has been considered by Macfadyen as the early barren shoots of α.—HAB. Jamaica!, *Dist., Wils.;* Dominica!, S. Lucia!, *Anders.;* Trinidad!, *Lockh.*, chiefly on the seashore; [Panama! to Bahia! and Guayaquil! along both the coasts].

17. **C. eustachiana,** *Jacq.* Leaves leathery, glabrous, oblong or oblong-lanceolate, acuminate, shortly petioled, furnished with an obovoid axillary gland; peduncles few-flowered; *calyx* 4-*partite* (3‴ long): segments roundish; *petals oblong,* glabrous, exceeding three times the calyx and *exceeded twice by the* subindefinite *stamens; fruit linear,* equalling the gynophore.—*Jacq. Amer. Pict. t.* 146.—C. cynophallophora, γ. attenuata, *Gr.* (*Pl. Carib.*).—It has the same habit as the preceding species, but seems distinct by the petals being narrower and only twice exceeded by the stamens: leaves 3″–4″ long; petals 8‴–9‴ long, rosy; stamens about 20–24; fruit 4″ long.—HAB. Antigua!, S. Vincent!, *Guild.*, in the mountain woods; [S. Eustache!].

18. **C. verrucosa,** *Jacq.* Leaves leathery, glabrous, oblong, tapering towards the bluntish top, subcordate at the base, shortly petioled: axillary gland obovoid or abortive; peduncles few-flowered; *calyx 4-partite* ($4'''$–$6'''$ long): segments roundish, large: *petals obovate,* glabrous, *twice* exceeding the outer sepals and *exceeded* as much by the subindefinite stamens; *fruit oblong, tubercled,* equalling the gynophore.—*Jacq. Amer. Pict. t.* 148; *Desc. Fl.* 1. *t.* 29.—C. amplissima, *Lam.* C. Baducca americana, *L.*—The habit and form of leaves agree with *C. eustachiana,* but the larger calyx, and especially the thick and short fruit, present distinctive characters. Sepals of the same breadth, but the exterior only $4'''$, the interior $6'''$ long; petals white, $8'''$–$9'''$ long; stamens about 24; fruit $1''$–$2''$ long, $6'''$–$10'''$ diameter.—Hab. Trinidad!, *Lockh.;* [Haiti, S. Thomas!; Mexico, Venezuela!, New Granada!].

19. **C. frondosa,** *Jacq.* Leaves leathery, glabrous, oblong, usually pointed, long-petioled: veins prominent on both sides; corymb terminal; *calyx 4-lobed* ($1'''$ long): lobes roundish, small, about four times exceeded by the glabrous corolla; *stamens* indefinite, *equalling the corolla.*—*Jacq. Amer. Pict. t.* 153.—C. commutata, *Spreng.* (*ex loco*). C. cuneata, *DC.* (*ex descr.*).—A tree-like shrub with a few stems (undivided sometimes to $20'$ above the ground: *Pd.*), altogether $7'$–$25'$ high; leaves much larger than in the preceding, $10''$–$3''$ long, usually minutely cordate at the base, but variable in breadth and shape: petiole at length often $2''$–$1''$ long; axillary glands minute or none, and those in the calyx much less developed than in any of the preceding species; corymb subcontracted, terminating a stiff peduncle (the end of the branch); petals pale greenish-purple; fruit short, $1''$–$2''$ long, $4'''$–$6'''$ diam., about double the length of the gynophore.—Hab. Jamaica!, *M'Nab, Pd.,* in woods; Trinidad!, *Pd., Cr.;* [Haiti, Guadeloupe!; Venezuela!, Rio Magdalenas!].

6. MORISONIA, *L.*

Calyx rupturing. *Petals* 4. *Stamens* 20–6. *Ovary* 4-locular by spurious dissepiments, stalked. *Berry* globose.—Trees; leaves *glabrous, leathery, entire;* corymbs *lateral.*

The stamens, inserted upon a disc, are not monadelphous; but though the habit of *Morisonia* agrees perfectly with *Capparis,* its reduction, proposed by Swartz, is not justified, and its peculiarity might rather serve as an argument for the ulterior division of *Capparis;* as the thin dissepiments, which (analogous to those of *Cruciferæ*) in *M. americana,* L., divide the 4 parietal placentas into 8, do not occur in *Capparis ferruginea,* where the fruit has a similar form, but the ovary is unilocular with 2 placentas.

20. **M. americana,** *L.* *Leaves oblong, concolor,* at length devoid of lepidote scales; stamens about 20.—*Jacq. Amer. Pict. t.* 144; *Desc. Fl.* 7. *t.* 532.—A low tree, about $15'$ high; branchlets and inflorescence leprous; leaves shining, $4''$–$6''$ long, bluntish: petiole thickish, often $1''$ long; corymbs shortly stalked, few-flowered; calyx closed in the ovoid bud, bifid by rupture, about half the length of the white corolla; petals leprous on the exterior, downy on the interior side, obovate, $6'''$ long, a little exceeded by the stamens: those equalling the gynophore, hairy below; ovary longitudinally striated, constricted below the large, round, umbilicate stigma; berry size of a small orange ($1\frac{1}{2}''$–$2''$ diam.).—Hab. Dominica!, *Imr.,* S. Lucia!, *Anders.,* on the calcareous seashore; Trinidad!, *Lockh.;* [S. Thomas, Désirade!, New Granada].

21. **M. Imrayi,** *Gr.* (*n. sp.*). *Leaves elliptical,* pointed, shining above, *pale-glaucous beneath* by a lepidote covering; stamens 8 (–6).—A timber tree: branchlets bearing scales; leaves $3''$–$2''$ long, with a bluntish point, discolor, covered beneath with minute, confluent scales: midrib and principal veins devoid of scales, prominulous beneath: petiole $4'''$–$3'''$ long; corymbs subsessile, lateral, few-flowered, leprous; calyx leprous, closed in the ovoid bud, probably at length 4-fid, bearing four glands on the outside of the depressed disc, to the upper margin of which the corolla and stamens are inserted; petals 4, villous within; anthers oblong; ovary abortive in our specimens, the flowers of which are not yet opened.—Hab. Dominica!, *Imr.,* "Bois doré," in the mountains.

7. STERIPHOMA, *Spring.*

(Stephania, *DC.*)

Calyx bifid. *Petals* 4. *Stamens* 6. *Ovary* bilocular by a spurious dissepiment, stalked.

Berry globose.—Shrubs; leaves *entire;* peduncles *one-flowered, axillary, cernuous, and together with the calyx covered with orange-coloured tubercles.*

22. **S. elliptica,** *Spr.* *Leaves* cuneate-oblong or elliptical, *mucronate*, pubescent beneath, *longer than the petiole.*—Stephania, *DC.*—A shrub, 6′ high; leaves about 3″ long, shining above; calyx campanulate, bifid by rupture, 6‴ long: the posterior lobe broader, ovate, blunt; petals spathulate, 8‴ long, exceeded by the stamens.—Hab. Trinidad!, *Schach, Cr.;* [Cumana!].

XIV. BIXINEÆ.

[Flacourtianeæ. Samydeæ.]

Stamens inserted on a hypogynous or perigynous disc. *Pistil* paracarpous. *Embryo* included in the axis of the fleshy endosperm: *cotyledons* foliaceous.—Woody plants; leaves *not divided;* stigmas *deciduous.*

The *Bixineæ* have in most cases dotted leaves, and possess accordingly aromatic properties, of which no particular use is made. From the testa of the Arnotta-tree (*Roucou* of the French) the celebrated red dye of that name is extracted: it is a resinous substance with stomachic properties.

Tribe I. *BIXEÆ.—Capsule dry: valves bearing the placentas on their middle line. Stamens hypogynous, indefinite.*

1. BIXA, *L.*

Sepals 5, distinct, imbricate, deciduous, alternating with exterior glands. *Petals* 5. *Anthers* reflexed: the descendent part adherent to the ascending: cells dehiscent vertically at the bend by an abbreviate fissure. *Ovary* unilocular, with two placentas: style simple; stigma bilobed. *Capsule* bivalved: seeds indefinite, turbinate.—Trees; leaves *entire, long-petioled, dotted;* flowers *large, rosy (or white), arranged in a terminal corymb.*

1. **B. Orellana,** *L.* Leaves glabrous, cordate or ovate, pointed.—*Sl. t.* 181. *f.* 1; *Tuss. Fl.* 2. *t.* 20; *Desc. Fl.* 1. *t.* 4.—B. platycarpa, *R. P., Clos:* a form with the capsule less cordate.—A low tree, 10′–12′ high.—Hab. Jamaica, S. Lucia!, on the banks of rivers; [the whole of tropical America; naturalized in the East Indies and Africa].

Tribe II. *FLACOURTIANEÆ.—Pericarp fleshy. Stamens inserted upon a free disc.*

2. LÆTIA, *L.*

Sepals 4–5, distinct, imbricate, biserial, all or partly corolline, at length deciduous. *Petals* 0 (–5). *Stamens* indefinite: anthers erect, roundish. *Ovary* unilocular, with 3–5 placentas: style simple; stigma capitate. *Pericarp* drupaceous, dehiscent: seeds indefinite, arillate.—Trees *or* shrubs; leaves *dotted;* flowers *arranged in axillary corymbs.*

2. **L. Thamnia,** *Sw.* Leaves elliptical or elliptical-lanceolate, blunt, crenulate or subentire, petioled, glabrous; corymbs peduncled; *sepals* 4, all corolline, 2 interior ciliate; *petals none;* fruit velutine, globose; placentas 4–6.—*Br. Jam. t.* 25. *f.* 2.—A shrub or low tree, very fragrant; leaves 3″ long, subcoriaceous, dotted with pellucid lines and points; corymbs 3–9-flowered, exceeded by the leaves; sepals 2‴ long, rosy-white (the interior rather paler), roundish, somewhat puberulous; pericarp in the younger state with a thick, woody layer, which narrows the cell, but at length dehiscent.—Hab. Jamaica!, *Macf., Pd., Alex., March, Wils.*, common in the southern districts on limestone; [Haiti!].

3. LUNANIA, *Hook.*

Sepals 2, distinct, valvar, marcescent. *Petals* 0. *Stamens* 6, inserted upon a cup-like disc, alternating with its simple teeth: anthers erect, oblong, introrse. *Ovary* unilocular, with 3 placentas: style shortly trifid. *Pericarp* . . . .—A tree; leaves *obsoletely dotted, ovate, pointleted, entire, glabrous, palmatinerved: 3 ribs stronger, and separating usually a little above the base;* racemes *elongated, drooping, lateral or axillary, fascicled at the end of the branches:* pedicels *short, scattered, articulated at the base;* sepals *roundish, concave, membranaceous.*

3. **L. racemosa,** *Hook.*—*Hook. in Lond. Journ. of Bot.* 3. *p.* 317. *t.* 11, 12.—A fo-

rest tree, about 25′ high; leaves 3″–5″ long, petioled: stipules not observed; racemes filiform, 12″ long and more, sometimes branched; sepals 1½‴ long, equalling the stamens.—HAB. Jamaica!, *Pd.*, *Wils.*, in woods of the northern districts of S. Mary; [Cuba!, *Linden*, 2130].

4. XYLOSMA, *Forst.* (1786.)

(Hisingera, *Hell.*, 1792. Roumea, *Poit.*, 1815. Flacourtiæ *sp. Americ. ap. Kth*, *Benth., etc.*)

Flowers usually deciduous. *Sepals* 4–5, distinct or coherent at the base, imbricate, marcescent. *Petals* 0. *Stamens* indefinite: anthers roundish, didymous, affixed to the filament above the base. *Ovary* unilocular, with 2–6 placentas: ovules definite, 2–4 on each; styles short, distinct, or combined at the base: stigma thickened, subemarginate. *Berry* indehiscent, few-seeded.—Shrubs *or* trees, *usually with axillary spines;* leaves *obsoletely dotted, leathery, serrate: serratures often glandular, and stipules early disappearing;* flowers *small, axillary, arranged in fascicles or short racemes.*

4. **X. nitidum,** *As. Gr. in lit.* Leaves ovate, ovate-lanceolate, or oblong-lanceolate, glabrous, subcoriaceous: serratures blunt, glandular; *flowers diœcious, fascicled:* fascicles shorter than the petioles or equalling them; calyx 4–5-partite, about half the length of the stamens: segments ciliate; styles 2–4(–6); placentas 2(–4)-ovuled; berry globose-ovoid.—*Hellen. in Act. Holm.* 1792, *t.* 3; *Poit. in Mém. Mus.* 1. *t.* 4.—Hisingera, *Hell.* Roumea coriacea, *Poit.* Flacourtia celastrina *et* flexuosa, *Kth.* H. nitida *et* puberula, *Schlecht.* H. elegans, *Clos.* Prockia obovata, *Prl.* (*ex specim. Mexic.*). H. Roumea, *Clos.*—A shrub, spiny or unarmed, very variable in the size and form of the leaves, the spines compound or simple, the down of the calyx, the length of the stamens, and the number of the carpels. Leaves 1″–4″ long, usually acuminate.—It might be doubted whether, among the above synonyms, *Roumea coriacea,* Poit. (*H. Roumea,* Cl.), is correctly placed here, as Poiteau figures a plant with 5 styles, and Kunth describes it with 5 or 6 styles, and as the former found 10, the latter 20 ovules, though both of them doubtfully, while among the many specimens compared by myself the number of styles and consequently of the placentas did not exceed 4, the same varying between 2 and 4, and the placentas being usually 2-ovuled: but as there is no other specific character, the greater number of ovules seems only the consequence of the higher number of carpels, the placentas bearing in the same species 2 to 4 ovules, and thus Kunth's highest number being in correspondence with 5 or 6 carpels.—HAB. Jamaica!, *Pd.*, *Alex.*, Trinidad!, *Pd.*, *Cr.*, on mountains; [Haiti; Mexico! on both coasts, Guatemala!, Veraguas!, Venezuela!, Rio Negro!, *Spruce*, 1533, Bahia!].

TRIBE III. *PROCKIEÆ.—Pericarp fleshy, not dehiscent. Stamens inserted upon a perigynous disc.*

5. TRILIX, *L.*

(Prockia, *P. Br.* Banara, *Aubl.*)

Calyx 3–4-partite: segments valvate. *Petals* 3–4 (or abortive). *Stamens* indefinite: anthers roundish, erect. *Ovary* incompletely or completely divided by the protruding 3–8 parietal placentas: style simple, with the stigma obsoletely lobed. *Pericarp* baccate: seeds indefinite, longitudinally striated.—Shrubs *or* trees; leaves *serrate, stipulate;* corymbs *or* panicles *terminal.*

Sect. 1. PROCKIA.—*Ovary 3–5-locular, by the placentas contiguous in the axis. Stipules foliaceous, deciduous. Leaves not dotted.*

5. **T. crucis,** *Gr.* (*Pl. Carib. p.* 17). Leaves ovate or cordate, acuminate, serrate with the point entire, membranaceous: petiole thin; *corymbs few-flowered;* segments of calyx 3–4, ovate, downy internally: petals lanceolate, downy (occasionally all, or some, abortive). *Vahl, Symb. t.* 64; *Hook. Ic. t.* 94.—Prockia, *L.* P. completa, *Hook.* Ascra brasiliensis, *Schtt. in Hb. Hook.*—A middle-sized tree, 20′–25′ high; leaves glabrous (or sometimes downy), 3″–5″ long; petals yellowish, odorous; berry size of a pea. Bennett (*Pl. Javan.* 1. *p.* 191) has well remarked that the species is "very variable as regards the shape and serration of the leaves, the length of the petioles, the size of the stipules:" so it is also in the

number of flower-parts.—HAB. Antigua!, Dominica!, *Imr.*; [Cuba! to Brazil!, and Mexico! to Peru!].

Sect. 2. BANARA.—*Ovary incompletely* 5–8-*locular, by the placentas protruding and covered with ovules. Stipules minute; leaves sparingly dotted, furnished with infundibular glands on the serratures: one or two larger glands usually observable on the petiole near its top.*

6. **T. glandulosus,** *Domb.* Leaves ovate-oblong or oblong, pointleted, serrate, pubescent beneath: petiole thickish; *panicle formed of racemes;* segments of calyx 3 (–4), ovate, pointed or bluntish, tomentose; petals as many, ovate or oblong, blunt, tomentose.—*Pœpp. Nov. Gen. t.* 285.—Kuhlia mollis, *Pœpp.* Banara, *Tul.*—A shrub, exceedingly variable in the down, the shape of the leaves, the form and size of its serratures, and the length of the petiole, the proportion of the calyx-tube, the form of its segments, the number of placentas and stigma-lobes, and the berry mucronate or depressed.—Branches usually hoary-pubescent; leaves 3″–5″ long: veins prominent beneath; lateral racemes of the panicle short, terminal rather long; calyx 3‴ long, equalling the corolla, which is nearly of the same texture, both whitish-green, with yellow anthers.—Our Trinidad specimens are remarkable for their less membranaceous leaves, hoary-pubescent beneath, and their less profound (sometimes obsolete) serratures; but I cannot detect any specific character between the three forms of *Banara*, distinguished by Tulasne as species, the synonyms of which I have given elsewhere.—HAB. Trinidad!, *Pd.*, *Cr.*, in woods, Northport, Arima; [Panama! to Peru! and Guiana!].

TRIBE IV. *SAMYDEÆ.—Pericarp usually dehiscent. Stamens perigynous. Pedicels articulated at or above the base.*

6. THIODIA, *Benn.*

(Lightfootia, *Sw.* Zuelania, *Ach. Rich.*)

Calyx 4–5-partite, corolline: segments imbricate, marcescent. *Petals* 0. *Stamens* indefinite, alternating with glandular staminodes, inserted upon a short perigynous disc. *Ovary* unilocular, with 3–4 placentas: stigma peltate, subsessile. *Pericarp* baccate, dehiscent.—Trees *or* shrubs: leaves *oblong, serrate or crenate:* stipules *minute;* flowers *axillary or lateral, fascicled.*

This genus is a connecting link between *Lætia* and *Casearia,* from the former of which it is chiefly distinguished by the broad stigma and the sterile filaments, the perigynous insertion being only a slight difference of degree, higher developed in *Samyda.*

7. **T. lætioides,** *Gr.* *Leaves* oblong, subcordate or rounded at the base, *subentire,* subpubescent beneath; fascicles many-flowered: pedicels pubescent; calyx 5(–4)-partite, pubescent externally; *anthers oblong,* mucronate, recurved; *fruit* globose, pubescent, *many-seeded.—Rich. Cub. t.* 12 *et* 10.—Lætia Guidonia, *Sw. et Macf.* (*exclus. syn. P. Br.*). Samyda icosandra, *Sw.* (*Fl. p.* 1962). Zuelania lætioides, *Rich.* Z. icosandra, *Clos.* Lætia longifolia, *Rich.*: the fruit-bearing plant.—A tree, 15′–20′ high; leaves 3″–5″ long, annually deciduous: petiole pubescent, 3‴–5‴ long; sepals white, roundish, 3‴–4‴ long; staminodes oblong-linear, half the length of the stamens; stigma round, convex, persistent; fruit size of a nutmeg, obtusely subtrigonal.—HAB. Jamaica!, *Alex.*, *March,* on the central and western hills; [Cuba!; Panama!].

8. **T. serrata,** *Endl.* *Leaves* ovate-oblong, *serrate,* glabrous; fascicles 3–6-flowered; calyx 4-partite; *anthers roundish; fruit* ovoid-roundish, small, 3–6-*seeded.*—Lightfootia, *Sw.!* Prockia, *W.*—A shrub; leaves shortly acuminate: serratures blunt and incurved, glandular; flowers polygamous, whitish; berry the size of a currant.—HAB. Montserrat!, on the Sulfur mountain, *Ryan.*

7. CASEARIA, *Jacq.*

Calyx 5(–4)-partite (rarely 5-fid), corolline, marcescent: segments imbricate. *Petals* 0. *Stamens* definite, distinct, inserted upon a perigynous disc, fertile 8–10 (–15), alternating with villous scales: anthers roundish. *Ovary* unilocular, with 3 (–4) placentas. *Pericarp* dehiscent: seeds arillate.—Shrubs *or* trees; leaves *mostly serrate, and dotted usually with*

pellucid lines and points: stipules deciduous; flowers *small, arranged in axillary fascicles or corymbs.*

Sect. 1. Crateria.—*Style trifid. Fruit without pulp.—Leaves evergreen. Fascicles axillary. Stamens* 10.

9. **C. sylvestris,** *Sw. Leaves glabrous,* elliptical, ovate, or lanceolate, *entire* or obsoletely serrate: pellucid dots and lines numerous; stipules minute; flowers fascicled, crowded, minute: pedicels articulated a little below the middle; segments of calyx ciliate, oval or oblong, rounded at the top; *fruit* globose, *minute.—Sl. t.* 211. *f.* 2.—C. parviflora, *W. et Macfad.! (non Jacq.)*.—A shrub, either low (6′–10′ high) or arborescent (10′–35′ high); leaves pointleted, usually unequal at the base, very variable in size and form: petiole mostly exceeding the pedicels; calyx pale-yellow, 2–3 times smaller than in most other species ($\frac{1}{2}'''$ long); style shortly trifid, with 3 capitate stigmas; fruit 2‴ diam., red, rather dry.—Hab. Jamaica!, *Dist., Pd., Macf., Wils., March,* common in mountain woods!, S. Kitts!; Trinidad!, *Cr.;* [Cuba! to Portorico!, S. Thomas!; Mexico! to New Granada!, Guiana!, Brazil!].

Sect. 2. Pitumba.—*Style simple: stigma capitate. Fruit small, without pulp.—Leaves evergreen: stipules leafy, early deciduous. Fascicles axillary. Stamens* 10.

10. **C. serrulata,** *Sw.! Leaves glabrescent,* lanceolate or elliptical-lanceolate, *sharply serrulate:* pellucid dots and lines numerous; stipules elongated; flowers fascicled; pedicels articulated near or below the middle; segments of calyx puberulous, ovate, blunt; *fruit* ovoid-globose, *minute.* — C. ulmifolia, *V.* C. serrata, *Macfad.!* — A shrub, 8′ high: branches virgate, pubescent or glabrate; leaves pointleted, unequal at the base, very variable in their size and shape (5″–1″ long, 2″–6‴ broad), usually with some down on the midrib beneath: serratures minute, incurved, numerous; stipules linear, exceeding the petiole; calyx about 1‴ long, growing out during anthesis; fruit 2‴ long.—Hab. Jamaica!, *Macf., Alex.;* Nevis!, *Sw.;* Trinidad!, *Lockh., Cr.;* [equatorial Brazil!].

11. **C. stipularis,** *Vent. Leaves* lanceolate or oblong-lanceolate, serrulate, glabrous above, *hoary* (pubescent or glabrate) *beneath:* pellucid dots and lines scattered (or not conspicuous); stipules elongated; flower-fascicles substipitate: pedicels articulated below the middle; segments of calyx hoary-pubescent, ovate, blunt, double the length of the costate tube; fruit . . . .—*Vent. Choix, t.* 46.—C. lanceolata, *Miq.!* C. Hostmanniana, *Steud. in Hostm. Pl. Surin. n.* 1104!—A shrub or small tree; leaves pointleted, or acuminate, equal at the base; stipules much exceeding the petiole; calyx 2‴ long, at length keeled by 5–10 projecting, obtuse lines.—Hab. Jamaica, *Wils., e.g.* near Bath; [Cuba! to Rio Janeiro!].

Sect. 3. Iroucana.—*Style simple: stigma capitate. Fruit large, pulpy.—Leaves deciduous. Fascicles or corymbs usually lateral, precocious. Stamens* 10–8.

12. **C. parvifolia,** *W. Leaves glabrous,* lanceolate or elliptical-lanceolate, *serrate:* pellucid dots rare or none; stipules elongated; flowers fascicled, precocious; pedicels articulated below the middle; segments of calyx puberulous, oblong-linear, bluntish; stamens 10; fruit pulpy, globose, large.—*Jacq. Amer. Pict. t.* 127. *Lam. Ill. t.* 355. *f.* 2: *Anavinga.*—Samyda parviflora, *L.* (*exclus. synon. Sl.*). C. parviflora, *Jacq., Rich.* (*non W., non Macfad.*). C. serrulata, *Sieb. Hb. Mart. n.* 121! C. nitida, *Sieb. ib. n.* 124! (*non alior.*).—A shrub, about 15′ high; leaves equal at the base, taper-pointed; stipules linear, equalling the petiole, deciduous; calyx white, 1‴–$1\frac{1}{2}'''$ long; fruit 6‴ diam., eatable; seeds enclosed in a rich yellow pulp.—Hab. Dominica!, *Imr.;* Trinidad!, *Cr.,* in mountain woods; [Cuba! to Martinique!, Guiana, Pernambuco].

13. **C. hirsuta,** *Sw. Leaves* elliptical or oblong, *serrate,* glabrate above, *downy beneath:* pellucid dots and lines scattered or rare; stipules . . .; flower-fascicles lateral, shaggy; pedicels short, articulated above the base; segments of calyx oblong or oblong-linear, bluntish; stamens 10; fruit globose, tomentose, large.—*Kunth, Nov. Gen. t.* 480.—C. mollis, *Kth.*—A shrub, 8′–25′ high; leaves soft, usually pointed; calyx 2‴ long, whitish and densely shaggy; fruit 6‴ diam., exactly globose.—Hab. Jamaica (*Sw.*), in mountain woods; [Cuba! to Guiana!].

14. **C. hirta,** *Sw. Leaves* elliptical, *entire* or obsoletely serrate, glabrate above, *shaggy beneath:* pellucid dots numerous, lines rare; stipules elongated; flower-fascicles lateral

precocious, shaggy; pedicels short, articulated below the middle; segments of calyx 4–5, oblong-lanceolate, blunt; *stamens* 8; fruit ovoid, shaggy.—A shrub or tree, nearly allied to the preceding, but distinguished by the leaves more dotted, and with distant serratures or without any; calyx white, 2‴–3‴ long. The style has been erroneously described as trifid by Swartz and by Macfadyen.—HAB. Jamaica!, *Pd.*, *Macf.*, *Alex.*, *March*, common on mountain pastures; [Cuba!].

15. **C. ramiflora,** *Vahl.* *Leaves glabrous,* elliptical-oblong or elliptical, serrulate-crenate or subentire: pellucid dots and lines numerous; stipules linear, equalling the petiole; flower-fascicles lateral, precocious; pedicels equalling the flower, articulated at the middle; segments of calyx puberulous, ovate-oblong, blunt; *stamens* 8; fruit globose, glabrous.—*Aubl. t.* 127.—A shrub or tree, 6′–20′ high, very fragrant; leaves shining and more rigid than in the preceding, usually blunt, tapering at the base; serratures with an appressed point; calyx white, 2‴ long; fruit 4‴ diam.

α. Leaves oblongate (3″–5″ long); branches unarmed.

β. spinosa, W. Leaves elliptical (1″–2″ long); branches sometimes spinescent.—C. odorata, *Macf.*—HAB. Jamaica!, *Macf.*, *March*, common in thickets, on pastures of the hills; [Cuba! to Bahia!].

16. **C. nitida,** *Jacq.* Leaves glabrous, ovate or oblong, serrulate-crenate or subentire: pellucid dots numerous; stipules ovate, small; *flowers corymbose,* axillary and appearing with the leaves; pedicels articulated below the middle; segments of calyx ovate, rounded; stamens 8–10, subexserted; fruit ovoid, glabrous.—*Br. Jam. t.* 23. *f.* 3: *flos.* *Jacq. Amer. Pict. t.* 126. Samyda, *L.*; *Lam.* Cas. corymbosa, *Kth.* (*ex specim. Goudot.*).—A shrub, 6′–15′ high; leaves shining, blunt at the top, variable in the form and the serratures: petiole long, but exceeded by the corymb; calyx white, puberulous; fruit 4‴–6‴ long, purple.—HAB. Jamaica!, *Macf.*, *March*; [Mexico! to Venezuela! and New Granada!].

8. GUIDONIA, *Gr.*

(Samyda, *sect.* Guidonia, *DC.*)

Calyx 5–4-partite, corolline, marcescent: segments imbricate. *Petals* 0. *Stamens* definite, 8–10, inserted upon the inner side of a cupuliform, and at the base, perigynous tube, alternating with its ciliate crenatures: anthers roundish. *Ovary* unilocular, with 3 placentas. *Pericarp* fleshy, dehiscent: seeds arillate.—Shrubs *or* trees; leaves of *Casearia*; flowers *axillary, shortly stalked.*

17. **G. spinescens,** *Gr.* Leaves lanceolate-oblong, serrate, glabrous above, glabrescent beneath: pellucid dots numerous, lines rare; stipules subulate; *flowers glomerate* or subsolitary, pubescent; segments of calyx 4–5, roundish; stamens 8–10; crenatures of the disc broad, truncate.—Samyda, *Sw.* Casearia brevipes, *Benth.*—A shrub; branchlets leafy, tomentose and glabrescent, at length sometimes spinescent; leaves with appressed, mucronate or obsolete serratures: base and top pointed or blunt; calyx expanded, whitish, 4‴–6‴ diam.; anthers just exceeding the crenatures of the disc; ovary pubescent: style simple; stigma capitate; pericarp ovoid.—HAB. Trinidad!: *Lockh.*, *Cr.*, on dry savannahs; [Cuba! to Guiana!].

9. SAMYDA, *L.*

Calyx 5–6-fid, corolline, marcescent: lobes imbricate. *Petals* 0. *Stamens* definite, 10–12, monadelphous, all fertile, perigynous: anthers roundish, inserted upon the crenatures of the staminal tube. *Ovary* unilocular, with 3 (–4) placentas: style simple. *Pericarp* fleshy, dehiscent: seeds arillate.—Shrubs; leaves *of* Casearia: stipules *minute; flowers larger than in* Casearia, *axillary, solitary or a few fascicled:* pedicel *short or none.*

18. **S. glabrata,** *Sw.* *Leaves* leathery, oblong, *entire* or obsoletely serrulate, *glabrous:* pellucid dots and lines distant; flowers campanulate, exceeding the petiole, pubescent; stamens 10–12, exceeded by the style.—*Vent. Choix, t.* 43.—S. spinulosa, *Vent.*—A shrub, 5′–12′ high; branchlets pubescent; leaves 3″–5″ long; flowers solitary or a few in the axil, subsessile or shortly stalked; calyx greenish-white, 7‴–8‴ long: lobes ovate, blunt, expanded; fruit "size of a plum, subglobose."—HAB. Jamaica!: *Dist.*, *Wils.*, *Al.*, in woods; [Portorico, St. Thomas].

19. **S. serrulata,** *L.* *Leaves* soft, oblong or elliptical, serrate, pubescent or glabrate above, *velvety beneath*; flowers campanulate, pubescent; stamens 10–12.—*Plum. ed. Burm. t.* 146. *f.* 2; *Bot. Mag. t.* 550.—S. pubescens, *L.*, *partim.* S. rosea, *Sims:* the form with red and fascicled flowers.—A shrub; leaves 2″–4″ long, variable in being pointed or blunt, in the size and number of the mucronate serratures, and in the down of the upper side; flowers solitary or fascicled; calyx white or red, 6‴–8‴ long: lobes blunt.—Hab. Jamaica!: *March,* in the mountains; S. Vincent; Trinidad!: *Sieb. Hb. Trin.* 46; [Haiti].

10. SADYMIA, *Gr.*

(Samydæ *sp.*, *Sw.*)

Calyx 5-fid, corolline: lobes imbricate. *Petals* 0. *Stamens* definite, 10, distinct, all fertile, perigynous: filaments very short, inserted upon the throat of the calyx-tube; anthers oblong. *Ovary* unilocular, with 3 (-4) placentas: stigma peltate, subsessile. "*Pericarp* fleshy, dehiscent: seeds arillate."—A shrub; leaves of *Casearia:* stipules *minute; flowers axillary, solitary, subsessile.*

21. **S. villosa,** *Gr.*—Samyda, *Sw.!*—A low, pubescent shrub; leaves (2″–3″ long, 8‴–12‴ broad) oblong, or elliptical, pointed, soft, hairy on both sides, and shaggy with a rusty down on the nerves beneath, either subentire or serrate, with the serratures bluntish, shortly petioled: pellucid dots numerous, lines rare; flowers rather small (2‴ long), pubescent, "white;" calyx 5-fid to the middle, infundibuliform: lobes oblong, blunt, furnished at the base and above the staminal insertion-line with a few small glands; anthers oblong, yellow, scarcely exceeded by the calyx-lobes.—Hab. Jamaica!, in the mountains: *Sw.*

XV. LACISTEMEÆ.

Flowers amentaceous, apetalous. *Calyx* 4(–6)-partite, corolline. *Stamen* single, hypogynous, inserted within a disc. *Pistil* paracarpous. *Embryo* included in the axis of fleshy endosperm: cotyledons foliaceous.—Woody plants; leaves *not divided, dotted with minute points:* stipules *deciduous;* catkins *axillary;* bracts *furnished with 2–4 accessory, lateral bracteoles.*

1. LACISTEMA, *Sw.*

Bracts including a single, hermaphrodite flower: bracteoles 2. *Anther-cells* distinct. *Pericarp* baccate, not dehiscent.—Shrubs *or* trees.

1. **L. myricoides,** *Sw.!* Leaves elliptical-oblong, glabrous, quite entire; catkins sessile, aggregate, equalling the petiole; stigmas 2–3, sessile.—*Act. Helvet.* 7. *t.* 10; *Sw. Fl. t.* 21: *flos. Rudg. Guian. t.* 4. Piper aggregatum, *Berg.* P. fasciculare, *Rudg.*—A shrub or middle-sized tree; leaves 4″–6″ long: petiole 4‴–6‴ long; catkins 3–9, cylindrical; bracts roundish, somewhat exceeded by the linear bracteoles; calyx white: segments oblong-lanceolate, shorter than the bract; disc membranaceous, cupuliform; stamen exceeding the bract; anther bipartite: divisions roundish, with a single, introrse cell; ovary ovoid, with 2–3 parietal placentas: stigmas linear, recurved, short; ovules numerous; berry ovoid, 4‴ long.—Hab. Jamaica!, *Al.*, *Wils.*, *March;* Trinidad!, *Lockh.*, *Pd.*, *Cr.;* [Cuba!; Panama! to Brazil!].

XVI. VIOLACEÆ.

Stamens 5, hypogynous: anther-cells adnate, introrse, exceeded by the membranaceous connective. *Pistil* paracarpous: placentas 3; style simple; ovules usually anatropous. *Pericarp* mostly dehiscent, medianicide. *Embryo* included in the axis of fleshy endosperm: cotyledons mostly flat.—Leaves *stipulate, involute during development.*

The Order contains an acrid, usually emetic principle, used in medicine, from *Viola tricolor* and *Ionidium strictum.*

1. CORYNOSTYLIS, *Mart.* (1824.)

(Calyptrion, *Ging.* 1824.)

Sepals 5. *Petals* 5, asymmetrical: anterior long-spurred, two posterior small. *Anthers*

triadelphous, produced at the base: appendage bearded. *Style* clavate: stigma lateral. *Capsule* woody: seeds flat.—Twining shrubs: stipules *deciduous;* corymbs *terminal:* pedicels *elongated, articulated above two bracteoles.*

1. **C. Hybanthus,** *Mart.* Leaves ovate, serrulate, glabrous or glabrescent beneath; sepals blunt; spur subcylindrical, blunt, three times as long as the flower.—*Mart. Nov. Gen.* 1. *t.* 17, 18.—Viola, *Aubl. Mey. Fl. Esseq.!* Calyptrion Aubletii, *Ging.* C. nitidum, *Benth.!:* a form with smaller flowers. Coryn. Benthamii, *Walp.*—A vine, variable in the form of the leaves, in their margin being serrate or repand and subentire, in the spur being either slender or cylindrical, and constricted in the middle, and in the size of the flower; flowers white; sepals 1–2‴ long, ovate or oblong; spur usually 1″ long, horizontal.—Hab. S. Vincent!, *Guild.;* [Tabasco!, Guiana!, equatorial Brazil!].

2. VIOLA, *L.*

Sepals 5, produced at the base. *Petals* 5, asymmetrical: the anterior spurred or saccate. *Anthers* connivent or coherent, 2 anterior tailed at the base.—Herbs; stipules *persistent;* peduncles *axillary, one-flowered.*

2. **V. stipularis,** *Sw.* Leaves elliptical or elliptical-lanceolate, pointed: serratures blunt, appressed; *stipules* erect, oblong-lanceolate, taper-pointed, fimbriate, 2-4 *times exceeding the petiole;* peduncles half the length of the leaf; flowers cernuous; *spur very short;* stigma minute, lateral.—Habit of *V. rubella,* Cav.; stem perennial, with solitary flowers from the upper axils; leaves glabrous: stipules 8‴ long, long-ciliate; flowers small, blue.—Hab. S. Kitts; [Martinique!, *Sieb. Mart.,* 288; Venezuela!].

3*. **V. tricolor,** *L.* Annual; stem diffuse; leaves ovate or lanceolate; *upper stipules* runcinately *pinnatifid;* stigma urceolate.—Hab. Naturalized in the mountains of Jamaica (*Macfad.*); [introduced from Europe into both temperate zones of America, and into the mountains of warmer countries].

3. IONIDIUM, *Vent.*

Sepals 5. *Petals* 5, asymmetrical: the anterior largest, labelliform, clawed: claw concave or shortly gibbous. *Anthers* connivent: two anterior furnished with a gland at the base.—Herbs *or* shrubs; leaves *usually narrow;* peduncles *axillary, articulated above the middle;* flowers *nodding.*

4. **I. strictum,** *Vent.* *Inferior leaves opposite,* oblanceolate, serrate, superior lanceolate-linear, bluntish, alternate; *stipules minute,* subulate, rigid; peduncles equalling the leaves; sepals ovate-lanceolate, pointed, three times exceeded by the labellum; limb of the labellum rounded; seeds glabrous.—I. linarifolium, *Vent.* I. suffruticosum, *Wickstr.*—An annual, diffuse herb, or suffrutescent, glabrescent; leaves with remote serratures, or upper ones entire; sepals 1‴ long, glabrous; capsule few-seeded: seeds globose, yellowish-white.—Hab. Antigua!, *Nichols.,* in cultivated grounds; [Cuba! to Guadeloupe; Mexico].

4. ALSODEIA, *Thou.*

Sepals 5. *Petals* 5, symmetrical, spreading at the top. *Anthers* ligulate.—Shrubs *or* trees; flowers *usually racemose.*

5. **A. flavescens,** *Spr.* Leaves opposite, ovate, pointleted, subentire; racemes simple, puberulous: pedicels equalling the flower; filaments very short, much exceeded by the connivent anthers.—*Aubl. t.* 95. Conohoria, *Aubl.*—A shrub; leaves 5″–6″ long, leathery, glabrous.—Hab. Trinidad!, at Arima, *Cr.;* [Guiana!].

XVII. DROSERACEÆ.

Stamens definite, hypogynous: anthers mostly extrorse. *Pistil* usually paracarpous: style mostly divided. *Capsule* medianicide. *Embryo* minute, included in the top of the endosperm or exserted from it, rarely axile.—Glanduliferous herbs; leaves *mostly involute in the bud.*

An acrid principle exists in *Drosera;* and according to Descourtilz one species of this genus is applied as a blister in the West Indies.

1. DROSERA, *L.*

Calyx (4)–5–(8)-partite. *Petals* marcescent, (4)–5–(8). *Stamens* of the same number: anthers extrorse. *Ovary* unilocular, with 3–5 parietal placentas; ovules several or indefinite.

Sect. ROSSOLIS.—*Stamens* 5. *Style tripartite, divisions bipartite. Stem simple, rolled up during development, usually leafless, rosulate at the base; leaves bearing scariose stipules in the axils.*

1. **D. longifolia,** *Sm.* Stems glabrous, lateral, ascending; *leaves* all rosulate, *spathulate,* shorter than the petiole: fringes equalling the diameter of the limb; flowers several (2–12); calyx glabrous, exceeded by the capsule; seeds spathulate-oblong: *testa* appressed, pimpled.—D. intermedia, *Hayn.*

β. americana, DC. Stems slender (5″–6″ long), much exceeding the leaves; pedicels distant, filiform, equalling the capsule.—D. americana, *W.* D. intermedia, *var.* elatior, *Planch.*—HAB. Trinidad!, *Cr.;* [the variety inhabits eastern America, from Canada to South Brazil; *α.* is known to be European].

2. **D. tenella,** *Kth.* Stem glabrous, 2–3-flowered; *leaves* all rosular, *roundish,* as long as the petiole: fringes shorter than the diameter of the limb; stipules 3–5-partite, segments 2–3-fid; *seeds oblong, pimpled.—Kth. Nov. Gen.* 5. *t.* 490. *f.* 2.—Stem about 3″ high, slender; leaves minute, fringed on the margin and upper side.—HAB. Trinidad!, *Lockh.;* [Venezuela to extra-tropical Brazil!].

XVIII. POLYGALEÆ.

Flowers asymmetrical: the two outer whorls arranged in a quinary, the third and usually the fourth in a binary order. *Stamens* hypogynous, definite, mostly diadelphous: anthers dehiscent by pores. *Pistil* syncarpous, bilocular, rarely reduced and monocarpellary: ovules pendulous, 1 (–2): inner integument fleshy. *Embryo* included in the axis of a thin layer of perisperm, or exalbuminous: cotyledons foliaceous.—Leaves *entire, without stipules.*

Saponin is the prevailing principle of the Order, usually together with a bitter substance, which is highly esteemed in medicine. *Catocoma* is used against syphilis in Trinidad (*Cr.*). The anomalous genus *Krameria* is peculiarly rich in Tannic Acid (*Ratanhia*).

1. POLYGALA, *L.*

Sepals 5, the two lateral ones larger, coloured (wings). *Petals* 3 by abortion, partly coherent: the anterior (keel) difform. *Stamens* diadelphous, 8 (–6), adherent to the corolla: anthers unilocular, dehiscent by a terminal pore. *Capsule* compressed, bilocular, loculicide: seeds caruncled, albuminous.—Herbs *or* shrubs; flowers *mostly racemose or spicate:* pedicels *usually articulated and tribracteolate at or near the base.*

Sect. 1. TIMUTUA.—*Keel cristate. Upper lip of stigma cucullate, bearded at the incurved top. Caruncle bipartite, with the segments appressed to the testa, or minute.*

1. **P. Timoutou,** *Aubl.* Annual; glabrescent; *leaves* elliptical-oblong, *inferior verticillate; flowers spicate:* spikes terminal, cylindrical, compact; style slender, dilated upwards: upper lip of stigma large, cucullate, under lip short, cylindrical; capsule ovate, shortly emarginate; *seeds oblong,* shortly tapering at the base, puberulous, black: segments of the caruncle white, unilateral, oblong-linear, blunt, shortly exceeded by the extremity of the testa.—*Aubl. t.* 295.—Stem slender, spithameous or dwarfish, angular; leaves 8‴–4‴ long, subsessile, pointed or bluntish, inferior 2–4 in the whorl; flowers purpurascent, sessile: wings ovate, equalling the corolla; petals coherent to the middle.—HAB. Trinidad!, on the savannahs: *Pd., Cr.;* [Guiana!, Piauhy!].

2. **P. longicaulis,** *Kth.* Annual; glabrous; *leaves* linear, *scattered; racemes* terminal, *capituliform:* pedicels equalling the inferior *glanduliferous sepals;* wings mucronate; *petals cohering above the middle;* style slender, dilated upwards: upper lip of

stigma large, cucullate, under lip short, glandular; capsule ovate-oblong, obtusate and shortly emarginate; *seeds obconical*, silky-hairy and fringed at the top: caruncle minute.—P. incarnata, *Aubl.* (*non L.*). P. adenophora, *DC.* P. stellera, *DC. et Rich. Cub.* P. adpressa, *Steud. in Pl. Hostm.* (*non Benth.*).—Stem slender, filiform, with a few fastigiate branches above the middle; leaves distant, 6‴ long, the lowest smaller and broader, all dotted with glands; flowers purpurascent, 4‴ long; sepals all membranaceous, three smaller ones bearing a yellow gland at the base: wings exceeded by the corolla, oblong, 3-nerved: the lateral nerves bearing usually only a few veins on the outer side and being simple above the middle; tube of corolla narrowly tubular; capsule furnished on both sides with a double series of yellow glands, lining the dissepiment; caruncle a minute spot, covered by the down of the seed.—Hab. Trinidad!, *Cr.*, on savannahs; [Cuba and Mexico to Brazil!]

3. **P. variabilis,** *Kth.* Annual; glabrous; *leaves* linear, *scattered; racemes* terminal, *capituliform:* pedicels equalling or exceeding the inferior sepals, which are usually destitute of glands; wings rounded at the top; *petals cohering to the middle;* style slender, dilated upwards: upper lip of stigma large, cucullate, under lip shorter, thickened; capsule ovate-oblong, obtusate and shortly emarginate; *seeds obconical,* silky-hairy and fringed at the top: caruncle minute.—*Kth. Nov. Gen.* 5. *t.* 509.—P. sororia, *Miq.!:* a form destitute of pellucid dots in the leaves (P. stellera, *Miq.!, in Pl. Hostm.*).—Stem slender, filiform, usually a foot high, or spithameous: branches distant, spreading; corolla purple or white, equalling the wings, the lateral nerves of which bear usually 5–6 veins on the outer side. In all the characters not mentioned, and in the glands of the capsule, it agrees with the preceding species, to which it is very nearly allied.—Hab. Trinidad!, *Pd., Cr.*, on savannahs; [Venezuela! to Brazil!].

4. **P. paniculata,** *L.* Annual; minutely puberulous or glabrescent; leaves linear, scattered; *raceme* terminal, *elongated:* pedicels at length cernuous; style short, equalling the stigma: upper lip of stigma rounded-cucullate, under lip prominent, a little shorter; capsule elliptical-oblong, shortly emarginate; *seeds oblong,* rounded at both ends, pubescent: caruncle bipartite, with the segments linear.—*Sw. Obs. t.* 6. *f.* 2.—P. modesta, *Miq! in Pl. Kappler.:* a glabrescent, white-flowered form.—Stem ascending, usually much-branched, filiform, 8″–12″ long; leaves 6‴–8‴ long, dotted; flowers purpurascent or white; wings oblong, blunt, equalling the corolla; segments of the caruncle exceeding half the length of the black seed, deciduous.—Hab. Jamaica!, *Pd., Wils., Al., March,* in mountain pastures; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Mexico! to Brazil! and Buenos Ayres; Western Africa].

Sect. 2. Syngala.—*Keel not cristate, adherent to the stamens and superior petals at the base. Stigma papilliform. Caruncle distinct from the seed, three-lobed, helmet-shaped.—Two inferior sepals more or less united.*

5. **P. angustifolia,** *Kth.* Annual; puberulous; leaves linear-lanceolate, taper-pointed, shortly petioled, glabrescent; racemes elongated; inferior sepals united to the middle; keel naked, equalling the obovate, *persistent wings,* and a little exceeding the superior petals; style subulate, inflexed: stigma bearded below the top; *capsule oblong,* emarginate, glabrous; *seeds cylindrical,* oblong, silky and fringed at the rounded top.—*Kth. Nov. Gen.* 5. *t.* 511.—P. brizoides, *St. Hil.* (*Fl. Bras. t.* 88): a form with narrow leaves. P. camporum, *Benth.!* P. mucronata, *Macfad.!*—Stem herbaceous, slender, branched, 8″–12″ long; leaves 1″–2″ long, 2‴–4‴ broad; racemes at length 2″ long: pedicels cernuous, mostly unilateral; flowers yellowish-purple; capsule 2‴ long, equalling the wings: these often emarginate.—Hab. Jamaica!, *M'Nab, Macf.*, on pastures; Trinidad!, *Lockh., Pd., Cr.;* [Cuba! and Mexico! to Brazil!].

6. **P. americana,** *Mill.* Suffrutescent, erect; pubescent; leaves ovate-lanceolate or ovate, pointed, shortly petioled; racemes terminal; inferior sepals united at the base; keel naked, equalling the obovate, *deciduous wings,* and a little exceeding the superior petals; style inflexed: stigma thickened, glabrous; *capsule orbicular,* shortly emarginate, pubescent; *seeds obovate,* puberulous, mucronate at the subtruncate top.—*Kth. Nov. Gen.* 5. *t.* 512.—P. rivinæfolia, *Kth.* P. caracasana, *Kth.* (*ex specim. Schiedean. a Schlechtend. cum specim. Kth. comparatis*).—Stem slender, woody at the base, 1′ high; leaves membranaceous, sometimes glabrescent, ciliate, 1″–1½″ long, 6‴–8‴ broad; pedicels cernuous, mostly unilateral;

flowers "violet;" capsule 6‴ diam., membranaceous, flatly compressed; seeds only 2½‴ long.—HAB. Trinidad!, *Lockh.*; [Mexico! to Venezuela!].

2. BADIERA, *DC.*

Sepals 5, deciduous, the two lateral ones larger. *Petals* 5, the two lateral ones small and adherent to the posterior ones: the anterior carinal (keel). *Stamens* coherent, 8 (–6): anthers bilocular, dehiscent by an introrse, oval, partitioned foramen. *Capsule* compressed, obcordate, bilocular (or one cell abortive), at length loculicid: seeds crowned by a large caruncle, albuminous.—Woody plants; leaves *evergreen;* inflorescence *axillary.*

The character formerly used to distinguish *Badiera* from *Polygala* (the larger development of an oily caruncle), is one of degree only, but the peculiar structure of the anthers (observed in two species) is remarkable.

7. **B. diversifolia,** *DC.* Leaves ovate or oblong-lanceolate, glabrescent; corymbs exceeding or equalling the petiole; *keel three times the length of the calyx*, downy on the sides; filaments cohering nearly to the top.—*P. Br. Jam. t.* 5. *f.* 3. 4.—Polygala, *L.*, *Sw.* —A leafy shrub, about 15′ high; leaves variable in form, 1″–3″ long, 8‴–15‴ broad, inferior 6‴–8‴ long, blunt or tapering to a bluntish point; corymbs shortly stipulate, proceeding from all the upper axils; sepals ovate; flowers white; keel 2‴ long, subtruncate, a little exceeding the posterior petals; style bluntish: the under lip of the stigma minute, distant; capsule firm, marginate, 4‴ long and broad; caruncle operculiform, with its branches enclosing the basilar part of the oval seed.—HAB. Jamaica!, *Macf.*, *Pd.*, *Alex.*, *Wils.*, *March*, on arid rocks, in the southern and central districts.

3. CATOCOMA, *Benth.*

Sepals 5, deciduous, the two lateral ones larger, coloured. *Petals* 5, two lateral reduced to scales, the anterior carinal (keel). *Stamens* coherent, 8, adherent to the base of the corolla: anthers unilocular, dehiscent by a terminal pore. *Capsule* compressed, bilocular, loculicide. *Seeds* albuminous, crowned by a lanate caruncle: its wool containing the whole seed.—Shrubs *or* vines; leaves *evergreen;* flowers *panicled.*

8. **C. lucida,** *Benth.!* *Shrubby;* leaves elliptical-oblong or elliptical-lanceolate, shining above, glabrescent beneath; panicles terminal and axillary; wings downy externally on the median line; *ovary glabrous:* style inflexed; capsule cuneate-oblong.—A shrub, 12′–15′ high: branchlets downy, glabrescent; leaves 3″ long, 2″–1″ broad: panicles interrupted, constituted of corymbiform racemes; flowers white and yellow, 2‴ long: wings obovate, almost equalling the keel; capsule variable in form, 4‴–9‴ long, rounded-truncate or emarginate at the top. The wool of the caruncle is similar to that of *Gossypium.*—HAB. Trinidad!, *Lockh.*, *Cr.*; [Guiana!, Pará!].

4. SECURIDACA, *L.*

Sepals 5, deciduous, the two lateral large, corolline. *Petals* 5, the two lateral reduced to scales, the anterior (keel) carinal, bilobed, with an appendage that is folded together and expanded backwards between its lobes. *Stamens* coherent, 8, adherent to the base of the corolla: anthers bilocular, dehiscent by two introrse, oval foramens. *Ovary* unilocular by abortion of the second, anterior carpel. *Samara* indehiscent: anterior margin of the wing thickened, with a gibbosity (from the second carpel) at its base. *Seed* not caruncled, exalbuminous.—Woody vines *or* shrubs; leaves *articulated at the base and furnished with stipulary glands;* racemes *terminal and axillary.*

The synonymy of the West Indian species is obscure, as most authors have been in the habit of referring different figures to the same species, and in some instances seem to have completed their descriptions from erroneous quotations. I have four species, chiefly distinguished by the fruit: but I was obliged to neglect some of the descriptions of former authors, confiding only in their figures.

9. **S. erecta,** *L.* (*ex syn. Jacq.*). *Shrubby;* leaves ovate-lanceolate, ovate or oblong, coriaceous, puberulous beneath; *racemes* dense, *paniculate;* flowers red; inferior sepals ovate-oblong, bluntish; wings orbicular, equalling the shortly bilobed keel: appendage of the keel denticulate, equalling the lobes; posterior petals spathulate, blunt; *samara tapering*

downwards from the subtruncate top, rectilinear on the upper margin: longitudinal diameter of the carpid exceeding the breadth of the wing-base.—*Jacq. Amer. Pict. t.* 261. *f.* 56: flower and samara. *Plum. ed. Burm. t.* 247. *f.* 1.—S. volubilis, *L.* (*ex cit. Plum., exclus. syn. Jacq.*); *Mey. Fl. Esseq.!*: Burmann says, in the description of Plumier's plant, "Fruticosa, sarmentosa, scandens," which is not opposed to Jacquin's "rami graciles, longi, debiles."—A straight-growing shrub, 10′–15′ high, with a rich inflorescence of usually elongated, many-flowered, terminal and axillary racemes; leaves 1½″–3″ long, usually tapering towards the top, pointed or blunt: veins prominent on both sides; flowers 5‴ long, purple (*Jacq.*: but violet in his figure) or rosy (*Kegel*); wing of the samara about 1‴ broad at its base, 3‴–4‴ at the top: appendage minute, bluntish.—HAB. Trinidad!, *Cr.*, in rocky woods, and among shrubs; [S. Thomas to Guiana!, Panama! to equatorial Brazil!].

10. **S. virgata,** *Sw.* *Scandent;* leaves roundish, glabrous; *racemes* terminal, *filiform*, cernuous; *flowers* distant, *variegated;* inferior sepals ovate-oblong, blunt; wings orbicular, equalling the shortly bilobed keel; appendage of the keel ciliate-crenate or subentire, equalling the lobes; posterior petals obovate; "*samara rectilinear* from the rounded top *to the middle*, and below it tapering to the base: longitudinal diameter of the carpid exceeding the breadth of the wing-base."—*Plum. ed. Burm. t.* 248. *f.* 1; *Tuss. Fl.* 4. *t.* 20.—Sec. *n.* 1, *Br. Jam.* S. scandens, *Tuss.* (*non Jacq. nec Lam.*).—A high climber: branches slender and ending with a number of delicate, racemiferous branchlets, which are about one foot long; leaves 8‴–10‴ diam., rounded at both ends or subemarginate, those of the flowering branchlets much smaller; *flowers odorous,* 4‴ long: the wings rosy on the outside, white within, and the corolla yellow. The description of the fruit is taken from Tussac's figures, representing excellently the habit of our Cuba specimens.—HAB. Jamaica (*Sw.*); [Cuba! to Portorico!].

11. **S. Lamarckii,** *Gr.* *Scandent;* leaves ovate or oval, puberulous and glabrescent beneath; *racemes* simple, *lax*, axillary and terminal; *flowers red;* inferior sepals ovate, blunt; wings orbicular, a little exceeding the bilobed keel; appendage of the keel denticulate, equalling the lobes; posterior petals spathulate, blunt; *samara puberulous*: *curved on the anterior margin* from the rounded top towards the rectilinear base, posterior margin more straightish, tapering at the base; *carpid reticulate:* its longitudinal diameter exceeding the breadth of the wing-base.—*Lam. Ill. t.* 599. *f.* 1.—S. scandens, *Lam.* (*non Jacq.*). S. virgata, *Sieb., Martin., n.* 327! (*non Sw.*).—A climber; leaves 1½″–2″ long, blunt or pointed; racemes scattered: flowers distant, 5‴ long, rosy, "not odorous" (*Lam.*); samara 1½″ long, 1‴ broad at the base of the wing (narrow part only a few lines long), 5‴ broad towards the top: wing inserted on the top of the ovoid carpid, which is lined on the anterior margin only with the narrow appendage: the reticulation of the carpid formed by a few prominent lines on the sides.—HAB. Jamaica!, *Macf.;* S. Vincent!, *Guild.;* [Cuba!, Martinique!].

12. **S. Brownii,** *Gr.* *Scandent;* leaves oval or oblong, blunt, minutely puberulous, membranaceous; *racemes* lax, *corymbose; flowers variegated;* inferior sepals ovate, rounded; wings orbicular, equalling the shortly bilobed keel; appendage of the keel exserted, denticulate; posterior petals rounded at the top, oblique and abruptly tapering downwards, exceeded a little by the keel; *samara oblong*, a little curved towards the rounded top; *carpid even: longitudinal diameter equalling the breadth of the wing-base.*—Sec. *n.* 2, *Br. Jam.* S. virgata, *Macf.!* (*non Sw.*).—A high climber (30′–40′ high), with a showy inflorescence; leaves 1″–1½″ long, of variable breadth, puberulous under the glass; panicle shortly triangular, spreading, constituted of 3″–4″ long racemes: pedicels elongated; flowers 4‴ long, purple and variegated with yellow: wings spreading; samara glabrescent, 1½″ long, 6‴–8‴ broad towards the top, 4‴ at the base: wing inserted on the whole posterior margin of the ovoid carpid: appendage rounded, situated at the upper end of its anterior margin.—HAB. Jamaica!, *Macf., Pd., Al., March,* common on the limestone-formation of the southern districts; [Haiti!].

5. KRAMERIA, *L.*

Sepals 5–4, corolline. *Petals* 5, smaller, asymmetrical, the three posterior usually connected. *Stamens* 4 (or fewer), posterior: anthers 2-celled, dehiscent by pores. *Pistil*

monocarpellary. *Pericarp* nucamentaceous, echinate: seed exalbuminous.—Suffruticose herbs; flowers *purplish, axillary or racemose.*

13. **K. Ixina,** *L.* Villous-pubescent; leaves elliptical-lanceolate, mucronate; *flowers racemose; sepals* 4, pubescent externally; posterior petals connected at the base; stamens 4; spines of pericarp glochidate.—*Tuss. Fl.* 1. *t.* 15.—Stem erect, branched, woody below: branches virgate, 6″–12″ long; pedicels short, bibracteolate about the middle.—Hab. Antigua!, *Wullschl.;* [Haiti, Cumana].

XIX. EUPHORBIACEÆ.

[Antidesmeæ.]

Flowers unisexual. *Pistil* syncarpous, rarely reduced: cells 1–2-ovulate: ovules pendulous, with a fleshy inner integument. *Pericarp* usually capsular, tricoccous, and with the endocarp separable. *Embryo* included within a fleshy perisperm: cotyledons leafy.—Leaves *mostly simple.*

Acrid, poisonous properties prevail in the milky juice (*Euphorbia, Pedilanthus, Tragia, Acalypha, Cicca,* etc.; poisonous trees are *Hura, Sapium,* and *Hippomane*): but there are some exceptions, as in the bitter-aromatic bark of many *Croton* species (*Cascarilla* bark, obtained chiefly from *Croton Eluteria*). The milk of *Siphonia* yields the American caoutchouc. The oily seeds, though devoid of milk, are purgative in *Ricinus* and *Curcas.* The *Cassava* is the famous, nutritive rhizome of *Janipha:* the seeds of *Cicca* and *Aleurites* are likewise eatable. Most of the West Indian *Euphorbiaceæ* are shrubs, or trees, some of which produce timber.

Tribe I. *BUXEÆ.—Ovary-cells* 2-*ovulate. Capsule loculicidal, with the dissepiments cohering. Seeds ecarunculate.*

1. TRICERA, *Schreb.*

Flowers monœcious. ♂: *Calyx* 4-partite, coloured. *Petals* 0. *Stamens* 4, inserted below a central rudiment; filaments broad: anthers recurved, introrse. ♀: *Sepals* 5. *Styles* 3 (–4), inserted below the top of the ovary.—Shrubs; leaves *opposite, exstipulate, quite entire, glabrous, coriaceous;* corymbiform cymes *axillary, or lateral:* ♀ flower *central, sessile.*

The arillus, mentioned by Swartz, is nothing but the loosened endocarp, dehiscent on the inner side.

1. **T. lævigata,** *Sw.* Leaves ovate-lanceolate, pointed; *axillary cymes peduncled,* exceeded 3–4 times by the leaves: pedicels twice as long as the ♂ flowers: calyx-segments ovate-lanceolate, exceeded by the subulate-oblong filaments.—*Sw. Fl. t.* 7: *Analyt.*—T. citrifolia, *W. ex Sieb. Mart.* 208!—Leaves 3″–2½″ long, 1″ broad: veins inconspicuous beneath; calyx ♂ 2‴ long; seeds 2‴ long, convex-trigonal, shining-black.—Hab. Jamaica, in the Western hills (*Sw.*); [S. Croix, Martinique!; Venezuela].

2. **T. fasciculata,** *Gr.* (*n. sp.*). Leaves elliptical, pointed, or bluntish; *axillary cymes contracted,* few-flowered, *subsessile,* or shortly peduncled, 2–3 times longer than the petiole: pedicels as long as the ♂ flowers: calyx-segments linear, bluntish, as long as the lanceolate filaments.—A dwarfish shrub; leaves 3″–2″ long, veiny on both sides; fascicles 5–7-flowered; calyx ♂ 1‴ long; ovary 2‴–3‴ long, much longer than the sepals, as long as the recurved styles.—Hab. Jamaica!, *Pd.,* on the Coffee-ridge, S. Ann's.

Tribe II. *PHYLLANTHEÆ.—Ovary-cells* 2-*ovulate. Capsule divided into cocci, or baccate. Seeds usually ecarunculate.*

Subtribe 1. *DRYPETEÆ.—Stamens inserted around a central rudiment.*

2. RICHERIA, *V.*

Flowers diœcious. *Calyx* 5–4-partite, imbricative. *Petals* 0. *Stamens* 5–4, alternating with glands: anthers globose-bilocular, extrorse. *Ovary* 3-celled: styles 3, short, revolute. *Capsule* usually monospermous by abortion of 2 cells, 3-valved from the base upwards in

the dissepimental lines: valves separating from the 3-winged columella, and from the 2-valved endocarps. *Seed* included within a pulpy integument, ecarunculate.—A large tree; leaves *quite entire, or repand, petioled:* stipules *deciduous;* spikes *lateral or axillary:* flowers ♂ *clustered,* ♀ *scattered.*

3. **R. grandis,** *V.—Vahl, Eclog. t.* 4.—Branchlets rough with large petiolar cicatrices; leaves 7″–4″ long, obovate, glabrous: veins distant, reticulated beneath; ♂ spikes subsessile, puberulous, spreading, 1½″–2″ long, with the clusters distant, 5(–1)-flowered: calyx 1‴ long, half as long as the stamens; ♀ spikes shorter, with the flowers subsolitary, very shortly pedicellate; capsule ovoid, 6‴–4‴ long: seed ovoid; embryo green: cotyledons oval, as broad as the perisperm.—HAB. Dominica!: *Imr.*, Trinidad!: *Sieb. Trin.* 131; [Brazil!].

3. HIERONYMA, *Allem.* (1848.)

(Stilaginella, *Tul.* 1851.)

Flowers diœcious. *Calyx* cupuliform, 3–6-toothed. *Petals* 0. *Disc* continuous. *Stamens* 3–6: anthers bilobed, extrorse, with a short rima: cells affixed to a globose connective. *Ovary* 2-celled: cells 2-ovuled; styles 2–3, bifid, short, revolute. *Drupe* monospermous by abortion: seed ecarunculate, coriaceous.—Trees *or* shrubs, *usually lepidote;* leaves *quite entire, petioled:* stipules *deciduous;* racemes *or* spikes *usually compound, axillary.*

4. **H. alchorneoides,** *Allem.* *Leaves* oval, long-petioled, rusty, *lepidote on both sides,* glabrous with the exception of the midrib, which is hairy or densely pilose beneath; panicles rusty-lepidote, half as long as the leaf: *pedicels as long as the calyx;* stamens 6 (–3), exserted; drupe ovate (1‴ long).—*Allem. Diss. de Hieron.*—Stilaginella hæmatoxylon, *Planch.*—A tree: habit of *Croton Eluteria;* leaves 6″–3″ long: petiole 2″–1½″ long; branches of the panicle distant, 1″–2″ long; putamen with the abortive cell subpersistent: seed ovoid, rusty.—HAB. Jamaica!: *Wils.*, *Al.*, near Moneague; [Veraguas!, Venezuela!, Brazil].

4. DRYPETES, *V.*

Flower diœcious. *Calyx* 4–6-partite, imbricative. *Petals* 0. *Stamens* 4–6 (8–2), distinct: anthers ovoid, introrse. "*Ovary* 2–1-celled: cells 2-ovuled; stigmas subcapitate. *Pericarp* drupaceous, usually monospermous by abortion."—Woody plants; leaves *coriaceous, glabrous:* stipules *deciduous;* flowers *axillary, fasciculate.*

The West Indian *Savia sessiliflora*, W., is distinguished from *Drypetes* by a tricoccous capsule: from its glomerate flowers *D. glomeratus*, Pl. Carib., is perhaps a congener of *Savia.*

5. **D. crocea,** *Poit.* Leaves elliptical, with a bluntish point, quite entire, green on both sides; ♂ *pedicels* numerous, *twice as long as the petiole;* calyx 4(–5)-partite; stamens 4 (–5), 4 times as long as the minute calyx.—*Mem. Mus.* 1. *t.* 8.—Schæfferia lateriflora, *Sw.*—A shrub; leaves 3″–4″, pedicels 4‴, filaments 1⅓‴ long; drupe "saffron."—HAB. Jamaica!, *Macf.*; [Haiti].

6. **D. glauca,** *V.* Leaves elliptical-oblong or oblong, pointed or apiculate, quite entire, glaucous beneath; ♂ *pedicels* exceeded by, or *equalling the petiole;* calyx 4-partite; stamens 6–8, as long as the calyx.—*Mem. Mus.* 1. *t.* 6.—A tree; leaves 7″–5″, pedicels 2‴ long; central disc of ♂ scutelliform, lobed, villous within.—HAB. Montserrat (*V.*), Dominica!, *Imr.*; [Portorico].

SUBTRIBE 2. *EUPHYLLANTHEÆ.—Stamens central.*

5. CICCA, *L.*

Calyx 4-partite, imbricative: segments unequal. *Petals* 0. *Stamens* 4, distinct: anthers extrorse. *Ovary* 5–2-celled: styles bifid. *Pericarp* drupaceous, or baccate. *Seeds* angular, hanging from the top of the cell: caruncle minute.—Woody plants; leaves *quite entire, glabrous:* stipules *deciduous;* flowers *fasciculate, axillary or lateral.*

7*. **C. disticha,** *L.* Leaves distichous, ovate, pointed; *flowers monœcious,* ♂ and ♀ mixed in the same fascicle; fascicles lateral, arranged along aphyllous branches; filaments alternating with exterior glands; ovary 4(–3)-celled; drupe depressed-globose, obtuse-angled;

angles as many as there are seeds.—*Jacq. Schœnbr. t.* 194.—Phyllanthus longifolius, *Jacq.* —A shrub; leaves 2″–3″ long; fascicles many-flowered.—HAB. Naturalized in Jamaica!, *Al.;* S. Vincent!, *Guild.;* [introduced from the East Indies!].

8. **C. antillana,** *Juss.* Leaves elliptical-lanceolate or obovate-lanceolate, bluntish; *flowers diœcious,* usually axillary: ♂ numerous in the fascicle, ♀ 1–3; ♀ calyx spreading, at length reflexed; filaments surrounded by a disc; ovary 5(–3)-celled: style-branches blunt; berry globose.—*Juss. Euph. f.* 13 *b: anal.*—A tree or shrub; leaves 3″–2″ long, chartaceous, at length leathery; pedicels 2‴ long, nearly as long as the petiole.—HAB. Jamaica!, *Pd., Al.,* in woods; [Cuba!, Guadeloupe!, Guiana!, Brazil!].

6. PHYLLANTHUS, *L.*

(Xylophylla, *L.* Epistylium, *Sw.* Anisonema, *Juss.* Orbicularia, *Baill., etc.*)

Calyx 6–5(4–9)-partite. *Petals* 0. *Stamens* monadelphous, usually 3, or 2–15: anthers extrorse. *Ovary* 3(–10)-celled: styles bifid, or laciniate. *Pericarp* capsular, rarely baccate. *Seeds* trigonal, usually attached below the top, ecarunculate.—Leaves *entire, stipulate, often distichous, in* Xylophylla *abortive;* flowers *mostly monœcious, axillary, fasciculate or solitary, rarely glomerate.*

I reduce to *Phyllanthus* several genera which Jussieu and later authors had separated; for a division, though perhaps admissible, is not to be constructed upon the number of organs, which is variable, or disjoins allied species; nor upon the staminal column, from the structure of which some more new genera might be formed if this principle were followed out.

Sect. 1. EPISTYLIUM.—*Calyx* ♂ 4-, ♀ 5-*partite. Staminal column bearing* 2 *adnate anthers at the top: anthers divaricate, with the cells distinct. Styles* 3, *obcordate, depressed-leafy.*—Stipules triangular, persistent; fascicles androgynous, along axillary, aphyllous branches.

9. **P. Epistylium,** *Gr.* Leaves ovate-lanceolate, acuminate, smooth, leathery, shortly petioled; fascicles in axillary racemes; *anthers two:* cells oblong.—Epistylium axillare, *Sw.!* —A shrub; 2′–4′ high; leaves about 3″, racemes 3″–1″, pedicels 2‴ long; calyx greenish-yellow.—HAB. Jamaica!, *Sw.,* in the western mountains.

Sect. 2. CATASTYLIUM.—*Calyx* ♂ 4-, ♀ 5-*partite. Staminal column entire: anthers* 3, *adnate, decurrent. Styles and stipules of* Epistylium.—Fascicles androgynous, along lateral, aphyllous branches.

10. **P. cauliflorus,** *Gr.* Leaves ovate-oblong, pointed, glabrous, leathery; *racemes lateral on the stem;* column 3-angular above, by the inner edges of the oval anther-cells prominulous.—Epistylium cauliflorum, *Sw.*—A tree, about 20′ high, devoid of branches below the top of the stem: branches simple, with distichous, distant leaves; leaves 4″–3″, racemes 6″–4″, pedicels 6‴–8‴ long; ♀ calyx red.—HAB. Jamaica!, *Wils.,* in the western mountain-woods.

Sect. 3. EUPHYLLANTHUS.—*Calyx* 6–5-*partite. Staminal column entire: anthers* 3, *transversely dehiscent. Styles* 3, *bifid.*—Pedicels axillary, or along aphyllous branches, fasciculate or solitary, the ♂ shorter: flowers of both sexes mixed, ♀ larger.

11. **P. nutans,** *Sw. Shrubby;* leaves ovate or elliptical, glabrous, glaucous beneath: *stipules* leafy, *roundish,* deciduous; flowering branches usually racemiform, nodding: ♀ pedicels 1–3, hair-like, 4–6 times as long as the petioles; *calyx-segments* 6, *oval;* anthers adnate to the top of the column, depressed-globose; capsule globose.—*Sl. t.* 158. *f.* 3; *Jacq. Schœnbr. t.* 193.—A shrub, a few to 20′ high; leaves membranaceous, larger ones 3″–4″ long; ♀ pedicels 8‴–10‴, red calyx 2‴ long; seeds polished.—HAB. Jamaica!, *Macf., Pd., Al., Wils.,* in rocky woods, and along rivulets; [Cuba!, Venezuela!].

12. **P. Conami,** *Sw. Shrubby;* leaves elliptical, pointed, subcuneate at the base, glabrous (or puberulous): stipules subulate, marcescent; fascicles axillary: ♀ pedicels subsolitary, hair-like, 2–4 times as long as the petioles; *calyx-segments* 6, *minute,* ovate or

ovate-oblong; anthers sessile on the top of the column, globose, contiguous: cells distinct; capsule subglobose, contracted along the dissepimental lines.—*Aubl. t.* 354.—P. piscatorum, *Kth.*: the puberulous form.—A branched shrub, 6′–10′ high; leaves membranaceous, 8‴–12‴ long; ♀ pedicels 3‴–4‴, calyx ½‴ long.—Hab. Jamaica, *Sw.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*; [Yucatan! to New Granada!, Venezuela! to Brazil!].

13. **P. mimosoides,** *Sw.* *Shrubby; leaves distichous* on pinniform branchlets, subsessile, obliquely lanceolate-oblong, mucronulate, glabrous, whitish-glaucous beneath: stipules subulate-setaceous, persistent; pedicels axillary, 1–3, short, 2–4 times exceeded by the leaf; calyx-segments 5 (–6), ovate; *anthers sessile around the depressed top of the column,* globose, contiguous; styles filiform, exserted; capsule depressed-globose.—Stem virgate, 4′–10′ high, paleaceous: leafy branchlets 1½″–2″ long, with about twenty leaves on each side; leaves 3‴ long, 1‴ broad; ♀ calyx ½‴ long.—Hab. Antigua (*Sw.*), Dominica!, *Imr.*, in woods along rivulets; [S. Barthélemy, Guadeloupe!].

14. **P. Niruri,** *L.* *Annual; leaves distichous,* subsessile, obovate-oblong (lanceolate, oval, or obovate), rounded at the top, or mucronate, glabrous, paler beneath: stipules setaceous, persistent; pedicels axillary, 1 (–3), 3–6 times exceeded by the leaf; calyx-segments 5, ovate; *anthers sessile on the top of the column,* globose, contiguous; styles short, included; capsule depressed-globose, minute.—*Wight, Ic. t.* 1894.—P. Urinaria, *L.* P. microphyllus, *Kth.*: leaves oval or lanceolate. P. diffusus, *Kl.*: a suffrutescent form, with obovate leaves.—Stem herbaceous or suffrutescent; leaves usually 3‴–4‴ long; ♀ calyx ½‴ long; seeds striated on the flat back.—Hab. Jamaica!, all collectors, common; S. Kitts!, Antigua!, Dominica!, S. Vincent!, Barbadoes! to Trinidad!; [all tropical countries, to the Cape! and southern China!].

Sect. 4. Amphiandra.—*Calyx 6-partite. Staminal column entire: anthers* 9, *adnate to the central, depressed mamilla, transversely dehiscent.*—Pedicels axillary or lateral.

15. **P. tremulus,** *Gr.* (*n. sp.*). Shrubby; *leaves* ovate or elliptical, bluntish, *long-petioled,* membranaceous, glaucous beneath, glabrous: stipules lanceolate-linear, deciduous; ♂ pedicels fasciculate, short, lateral; anthers contiguous, on a peltate, shortly stipitate column; capsules (on distinct branches) solitary, or a few together, depressed-globose, contracted in the sutures: pedicels cernuous, as long as the leaves.—Remarkable for the slender, spreading petioles, which are 10‴–12‴ long, and quite distinct from the tremulous lamina. Leaves scattered, 2″–1½″ long, 1½″–1″ broad; ♂ flowers very minute: calyx-segments biseriate, with the disc subentire; ♀ flowers unknown; capsule 4‴ broad, 3‴ high, 6-seeded, or 3-seeded by abortion; seeds pale, ecarunculate, attached below the top.—Hab. Jamaica!, *Purd.*, *Wullschl.*; in the southern districts of S. Katherine, Manchester.

Sect. 5. Anisonema.—*Calyx* 5–6-*partite. Stamens* 5, *unequal,* 2–3 *central, and attached to the top of an entire column,* 2–3 *exterior, more or less distinct: anthers longitudinally dehiscent. Styles* 3–10, *short, bifid.*—Fascicles axillary: flowers of both sexes mixed.

* The sections *Leptonema,* J., and *Asterandra,* Kl., are also represented in the West Indies, each by a Cuba species.

16. **P. jamaicensis,** *Gr.* (*n. sp.*). Shrubby; leaves oval or oval-oblong, bluntish, glabrous, glaucous beneath: stipules setaceous, persistent; pedicels fasciculate, ♀ central, 3–4 times as long as the petioles; calyx-segments 5, oval, whitish on the margin; *anthers* oval-oblong, *two central,* sessile on the column, *three exterior,* terminal on the separated filaments, which are exceeded by the column; styles 3, short, semilunar-bifid: stigmas bluntish; capsule globose.—Anisonema, *Gr. MS.*—A shrub, 6′–10′ high: leaf-bearing branches spreading, cylindrical; leaves distichous, somewhat distant, membranaceous, 1″–1½″ long, rounded at the base; stipules exceeded by the petiole; pedicels filiform, ♀ 4‴–6‴ long, subsolitary, ♂ shorter, usually 5–2; calyx 1‴ long; capsule 6-seeded.—Hab. Jamaica!, *Macf.*, *Wils.*, common.

Sect. 6. Orbicularia.—*Calyx* 6(5–9)-*partite. Stamens* 6 (4–10), *cohering to the middle: anthers longitudinally dehiscent. Disc lobed. Styles* 3, *bifid: stigmas capitate.*—Pedicels axillary, monœcious.

17. **P. orbicularis,** *Kth.* Shrubby; leaves oval-orbiculate, marginate, rounded at both

ends, or subcordate at the base, glaucescent, glabrous, shortly petioled: stipules lanceolate, acuminate, persistent; pedicels solitary (-3), half as long as the leaf; calyx-segments oblong-lanceolate, whitish; *anthers* globose, terminal, *much shorter than the free part of the filaments;* capsule depressed-globose.—*Kth. Nov. Gen. t.* 106.—Orbicularia phyllanthoides, *Baill.*—A low, leafy shrub; leaves 4‴-2‴ long, stiff, distichous: stipules twice as long as the petiole.—HAB. Jamaica!, *Macf.;* [Cuba, Venezuela].

Sect. 7. XYLOPHYLLA.—*Calyx* 5-6-*partite. Staminal column entire or divided, surrounded by* 5-6 *glands: anthers* 3 (-2), *transversely dehiscent. Styles* 3, *depressed, laciniate or bifid.*—Aphyllous, tree-like shrubs; flowers fasciculate or glomerate, in the axils of serratures on the margin of leaf-like coriaceous branchlets: ♂ and ♀ mixed; calyx coloured.

18. **P. montanus,** *Sw. Branches persistent,* cylindrical, compressed towards the top; *branchlets scattered, spathulate,* repand, striated by approximate veins: serratures usually obsolete; flowers glomerate, ♀ solitary; column entire; *anthers sessile:* cells distinct, globose; styles reflexed, bifid.—Xylophylla, *Sw.*—A small tree: stem 10‴ diam.; branchlets 3″-2″ long, 12‴-6‴ broad, usually blunt; glomerules 12-4-flowered: ♂ pedicels ⅓‴ long, as long as the rosy calyx, ♀ subsessile, purple.—HAB. Jamaica!, *Pd.*, in rocky woods of the western and central calcareous ridges, S. Ann's.

19. **P. falcatus,** *Sw.* Branches deciduous, cylindrical; *branchlets scattered, lanceolate or linear-lanceolate,* falcate, serrate above, striated by approximate veins: serratures truncate, persistent; flowers glomerate; column entire: *anthers subsessile:* cells distinct, ovoid-globose; styles reflexed, 4-2-fid.—*Bot. Reg. t.* 373.—Xylophylla, *Sw.* P. epiphyllanthus, *L., partim.*—Stem 6′ high, branched towards the summit; branchlets 4″-5″ long, 6‴-8‴ broad; calyx red.—HAB. Bahamas!, *Swains.;* Jamaica!, *Pd.;* S. Vincent!, *Guild.;* Barbadoes!, *Lane,* along the seacoast.

20. **P. angustifolius,** *Sw.* Branches deciduous, compressed; *branchlets distichous, lanceolate-linear* (or lanceolate), serrulate from above the base, striated by unequal, approximate veins; flowers fasciculate: *pedicels as long as the flower; column trifid at the top:* anthers spreading: cells distinct, subglobose; styles slender, recurved above, bifid.—*Bot. Mag. t.* 2652.—Xyloph. montana, *B. Mag.* (*non Sw.*). P. epiphyllanthus, *L., partim.* P. elongatus, *Jacq. Schœnbr. t.* 348: the form with lanceolate branchlets.—Stem 2′ high, branched above; branchlets 2″-4″ long, 2‴-3‴ broad; pedicels 1‴ long; calyx red.—HAB. Jamaica!, *Dist., Pd.*, on rocks of the western districts; [Cuba!]

21. **P. linearis,** *Sw.* Branches tardily deciduous, compressed; *branchlets distichous, linear,* serrulate from above the base, striated by unequal veins; flowers fasciculate: *pedicels three to four times as long as the minute flower; column short, tridentate at the top,* with the antheriferous teeth divaricate: anther-cells distinct, globose; styles reflexed, foliaceous, subbifid.—Stem 1′-2′ high; branchlets crowded, 1½″-2½″ long, 1‴-2‴ broad; pedicels 2‴-3‴ long; calyx white.—HAB. Jamaica!, *Macf., Pd.,* along the rocky seacoast and river-banks of the western districts.

22. **P. latifolius,** *Sw.* Branches deciduous, subcompressed; *branchlets distichous, rhomboid-lanceolate or rhomboid,* serrate above, striated only by the principal, somewhat distant veins: serratures truncate; flowers fasciculate: pedicels slender, 3-4 times as long as the flower; *column trifid:* anthers spreading: cells distinct, globose; styles slender, recurved above, 2-3-fid.—Xylophylla, *L.* (*non Bot. Mag.*).—Stem 3′-1′ high; branchlets 1½″-3″ long, acuminate or blunt, 4‴-10‴ broad: principal veins ½‴ distant; pedicels 1‴-4‴ long; calyx red.—HAB. Jamaica!, *Pd., Al., March,* on the sandy seacoast.

23. **P. speciosus,** *Jacq.* Branches deciduous, cylindrical or subcompressed; *branchlets distichous, lanceolate,* striated only by the principal, somewhat distant veins: serratures obsolete; flowers fasciculate: pedicels slender, 3-4 times as long as the flower; *column tripartite:* anthers spreading: cells distinct and divergent, globose; styles slender, reflexed, bifid.—*Jacq. Ic. Rar. t.* 616; *Bot. Mag. t.* 1021.—P. latifolius, *Bot. Mag.* (*non Sw.*). P. Arbuscula, *W.* Xylophylla, *Sw.*—Stem 6′-8′ high; branchlets 2″-6″ long, 2‴-3‴ broad: veins ½‴ distant; pedicels 2‴-3‴ long; calyx whitish.—HAB. Jamaica!, *March,* in the southern mountains.

TRIBE III. *CROTONEÆ.—Ovary-cells* 1-*ovulate. Capsule divided into cocci (or baccate).*

SUBTRIBE 1. *JATROPHEÆ.—Inflorescence centrifugal, androgynous: flowers pedicellate, cymose, central* ♀. *Seeds carunculate, large.*

7. JATROPHA, *L.*

Calyx 5-partite, or 5-lobed, imbricative. *Corolla* contorted. *Stamens* 10–8 (–15), monadelphous, 3–5 interior longer: column surrounded by 5 glands. *Capsule* 3(-2)-coccous. —Cyme *corymbiform:* flowers *usually scarlet.*

Sect. 1. ADENORHOPIUM.—*Petals distinct, or cohering at the base, spreading.*

24. **J. gossypifolia,** *L.* Herbaceous; leaves 5(–3)-partite, or lobed, ciliate and glanduliferous on the margin: segments ovate, pointed, denticulate or entire: *petiolar and stipular glands branched;* special cymes contracted; calyx 5-partite; corolla twice as long as the calyx; stamens 8–12; stigmas 2-branched.—*Sl. t.* 84; *Jacq. Ic. Rar. t.* 623. *Desc. Fl.* 2. *t.* 142.—I. glandulifera, *Roxb.!* I. elegans, *Kl.:* a glabrous form, in which the leaves however are ciliate between the glands.—Stem 2′–3′ high; leaves pubescent, glabrate beneath, or glabrous; petals obovate, deep-purple, 2‴ long, distinct, or cohering at the base.—HAB. Bahamas!, *Swains.;* Jamaica!, *M'Nab, Pd., Dist.*, common; Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Sieb.;* [Cuba! to Bahia!, Mexico! to New Granada!].

25. **J. multifida,** *L.* Shrubby; leaves long-petioled, 9–7-partite, glabrous, eglandular: segments pinnatifid, acuminate: lobes quite entire; *stipules multipartite: segments setaceous;* cymes umbelliform, long-peduncled; calyx 5-lobed; petals distinct, three times as long as the calyx; stamens 8–10; stigmas 2-branched.—Stem 5′–10′ high; stipular segments about 8‴ long; petals obovate, 2‴ long, scarlet.—HAB. S. Kitts!, S. Vincent!, *Guild.;* naturalized in Jamaica, where it is now common; [Venezuela, Guiana].

26. **J. hastata,** *Jacq.* Shrubby; leaves obovate (or oblanceolate), pointleted, quite entire, hastate, or cut into glandular teeth at the contracted, petioled base, glabrous; *stipules simple*, setaceous, deciduous; cymes umbelliform, long-peduncled; calyx 5-lobed; petals distinct, much longer than the calyx; stamens 10; stigmas 2-branched.—*Vent. Malmais. t.* 52. —J. acuminata, *Desv.* J. pandurifolia, *Andr.*—Stem about 3′ high; petals obovate-oblong, 4‴ long, scarlet.—HAB. Trinidad!, *Schach;* [Cuba].

27. **J. divaricata,** *Sw.* Arboreous; leaves ovate, pointed, quite entire, subcomplicate at the base, glabrous; stipules simple, glandular, deciduous; cymes dichotomous: pedicels divaricate, spreading; calyx 5-lobed; ♂ *corolla* 5-*petalous*, four times as long as the calyx, ♀ 5-*lobed;* stamens 8–10; styles short: stigma thickened.—Stem 10′–20′ high; petals pale-coloured, obovate, 2‴ long; seeds 6‴ long, oblong, obsoletely trigonal, solitary in each cell. Intermediate between this section and *Curcas.*—HAB. Jamaica!, *Macf., Pd.*, in rocky woods, S. Ann's and western districts.

Sect. 2. CURCAS.—*Corolla sympetalous. Styles cohering below.*

28. **J. hernandifolia,** *Vent.* Stem woody; *leaves* ovate-oblong, subpanduriform, pointed and mucronate, *peltate* and subcordate at the base, glabrous; stipules deciduous; cymes dichotomous, expanded, slender; calyx 5-partite; *corolla* 5-*lobed* to the middle, three times as long as the calyx; stamens 10; styles bifid.—Curcas portoricensis, *Baill.*—Branches straight; leaves 3″–5″ long: petiole 1½″–3″ long, united with the limb 2‴–3‴ beyond its base; corolla 2‴ long.—HAB. Jamaica!, *Bancr.;* [Portorico].

29. **J. Curcas,** *L.* Suffrutescent; *leaves subcordate-roundish*, angular, or obsoletely 3–5-lobed, glabrous or glabrate; stipules deciduous; special cymes contracted; calyx 5-partite; *corolla* 5-*partite, villous on the inside*, twice as long as the calyx; stamens 10–15; styles bifid.—*Desc. Fl.* 2. *t.* 141.—Curcas purgans, *Med.*—Stem 6′–12′ high; petioles as long as the limb; corolla pale-yellow, 3‴ long.—HAB. Jamaica!, *Al.:* a weed; S. Vincent!, *Guild.;* [Cuba! and Mexico! to Peru!, naturalized in all tropical countries].

8. CNIDOSCOLUS, *Pohl.*

Calyx coloured, 5-lobed, or 5-partite, spreading, imbricative. *Petals* 0. *Stamens* 10 (-15), monadelphous, five exterior shorter: column surrounded by a disc, with a hairy band

below. *Styles* multifid. *Capsule* 3-coccous.—Leaves *with a basilar gland above:* hairs *stinging;* cyme *corymbiform;* calyx *white.*

30. **C. napæifolius,** *Pohl.* Suffrutescent; leaves deeply 7-lobed, hispid beneath, or glabrate: *lobes pinnatifid, acuminate,* and cut into unequal teeth; ♂ calyx 5-lobed, ♀ 5-partite.—*Juss. Euph. f.* 34 *b*: *anal.*—Jatropha, *Desr.*—Male calyx infundibuliform, 4‴ long. —Hab. Introduced from the British West Indies into British gardens!

9*. JANIPHA, *Kth.*

Calyx coloured, 5-lobed or 5-partite, imbricative. *Petals* 0. *Stamens* 10, distinct, inserted into a central disc, 5 exterior shorter. *Styles* many-lobed. *Capsule* baccate, 3-coccous.—Woody plants, *with large tubers;* leaves *long-petioled, glabrous:* stipules *caducous;* special cymes *racemiform, few-flowered:* ♀ *at length inferior.*

31*. **J. Manihot,** *Kth.* Shrubby; *leaves* 7–5(–3)*-partite, glaucous beneath:* segments oblong-lanceolate or lanceolate, acuminate, quite entire; ♂ calyx 5-lobed, ♀ 5-partite; capsule pendulous, ovoid, with six narrow wings.—*Sl. t.* 85; *Tuss. Fl.* 3. *t.* 1, 2; *Desc. Fl.* 3. *t.* 176.—Jatropha, *L.* Manihot Aipi *et* utilissima, *Pohl.*—Calyx yellowish. Tubers either sweet or bitter; but this difference is not accompanied with trustworthy specific characters.—Hab. Naturalized in Jamaica!, *Dist., March;* Antigua!, *Nichols.;* Trinidad!, *Schach;* [Guiana! and New Granada! to Brazil! and Peru!].

10*. ALEURITES, *Forst.*

Calyx 2–3-fid, valvate. *Petals* 5. *Stamens* 15–∞, monadelphous, surrounded by a disc: anthers introrse. *Styles* 2 (–3), 2-partite. *Pericarp* baccate, 3-coccous.—Trees; leaves *long-petioled, with a basilar gland above:* down *stellate;* cymes *densely corymbiform.*

32*. **A. triloba,** *Forst.* *Leaves* glabrescent, 3-*lobed* (or ovate): middle segment larger, deltoid; cymes puberulous, nearly as long as the petiole; petals spathulate, much longer than the roundish calyx.—*Lam. Ill. t.* 791.—Hab. Naturalized in Jamaica!, *Al., March;* Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [introduced from the East Indies!].

11*. SIPHONIA, *Rich.*

Calyx 5-fid or 5-partite, valvate. *Petals* 0. *Stamens* 5–10, monadelphous: exterior series shorter, or none: anthers extrorse. *Styles* 3, short, emarginate. *Capsule* 3-coccous. —Trees; leaves *digitate, long-petioled;* special cymes racemiform, few-flowered: ♀ terminal.

33*. **S. elastica,** *Pers.* Leaflets 3, lanceolate-oblong, quite entire, glabrous, whitish beneath; *column* 5-*androus,* devoid of a surrounding disc: anthers equal, subsessile.—*Desc. Fl.* 6. *t.* 452.—Hevea guianensis, *Aubl.*—Hab. Naturalized in S. Vincent!, *Guild.;* [Guiana!, Brazil!].

Subtribe 2. *RICINEÆ.—Inflorescence centripetal, androgynous; flowers racemose, superior* ♀. *Seeds caruncułate, large.*

12*. RICINUS, *L.*

Calyx 5-partite, valvate. *Petals* 0. *Stamens* ∞, many-branched: anthers extrorse. *Styles* 2-partite, papillose. *Capsule* 3-coccous.—An arborescent herb, 12′–40′ *high;* leaves *palmatilobed, toothed, peltate, glanduliferous at the top of the petiole.*

34*. **R. communis,** *L.*

α. Capsules echinate.—*Desc. Fl.* 1. *t.* 59; 2. *t.* 127.

β. inermis, Jacq. Capsules devoid of spines.—*Jacq. Ic. Rar. t.* 195.—Leaves glaucous beneath.—Hab. Naturalized in Jamaica!, Barbadoes!, etc.; [introduced from the East Indies].

Subtribe 3. *EUCROTONEÆ.—Inflorescence centripetal, mostly racemose: bracts usually 1-flowered: flowers monœcious, inferior* ♀, *or diœcious. Seeds mostly caruncułate.*

13. CROTON, *L.*

Flowers monœcious (or diœcious by abortion). *Calyx* divided into 5 (4–12) segments or

lobes, valvate or somewhat imbricated. *Petals* 5 (–4), in ♀ small or abortive. *Stamens* usually 10–20, or 5–∞, distinct: anthers erect, introrse. *Styles* 3, mostly dichotomous: branches involute. *Capsule* 3-coccous. *Seeds* carunculate, biangular-convex: raphe distinct.—Racemes *terminal, rarely axillary.*

SECTIONS.

Raceme with the ♀ flowers inferior (or abortive).
Stamens 10–20.
Styles 2-partite: branches simple . . . . CASCARILLA.
Styles 4-branched.
♀ Calyx not reduplicative.
Stipules eglandular . . . . ELUTERIA.
Stipules glanduliferous . . . . BARHAMIA.
♀ Calyx reduplicative-valvate . . . . ASTRÆOPSIS.
Styles 8-partite . . . . LASIOGYNE.
Styles 2-fid. . . . . C. CORYLIFOLIUS *and* GEISELERIA.
Styles 3–8-fid. Seeds verrucose . . . . ASTRÆA.
Stamens 20–∞. Styles 2–4-partite . . . . ADENOPHYLLUM.
Raceme with ♂ and ♀ flowers mixed in its divisions . . . . . . CYCLOSTIGMA.

Sect. 1. CASCARILLA.—*Stamens* 10–20. *Styles 2-partite (or 2-fid): branches simple. Seeds smooth, small.*—Aromatic shrubs; leaves with stellate down, usually 2-glandular: stipules usually caducous.

* *Leaves discolor, quite entire, or denticulate.*

35. **C. Cascarilla,** *L.* Branchlets white-tomentose; *leaves* lanceolate, oblong, or linear, *blunt*, mucronulate, green and scabrous above, *white-tomentose beneath*, quite entire, 2–3-glandular at the base, shortly petioled: *glands cylindrical;* racemes terminal; seeds subcylindrical.—An aromatic shrub, 4′–8′ high; leaves 2‴–6‴ broad, with the principal veins impressed above; petals white; stamens about 15; seeds 1½‴ long, shining, punctate.
a. Leaves oblong, or lanceolate, often emarginate, rounded at the base.—*Desc. Fl.* 1. *t.* 3.
β. linearis, Jacq. Leaves linear; flowers sometimes diœcious.—*Sl. t.* 86. *f.* 1; *Jacq. Amer. Pict. t.* 263. *f.* 80: a leaf.—HAB. Bahamas!, *Swains.* (*β*); Jamaica!, all collectors, social in arid plains; *a*, on the seacoast; *β*, more common.

36. **C. balsamifer,** *L.* Branchlets yellowish-pubescent; *leaves* lanceolate, or ovate-lanceolate, *acuminate*, scabrous, with stellate down, green and glabrate above, *hoary-yellowish beneath*, quite entire, 2-glandular at the base, long-petioled: *glands shortly cylindrical;* raceme terminal; seeds ovoid.—*Jacq. Amer. Pict. t.* 242.—An aromatic shrub, 3′–4′ high; leaves 6‴–8‴ broad, pellucid-punctate, 3–4 times as long as the petiole; petals white; stamens about 15; seeds 1¼‴ long, shining, brown, obtusely angled on the back.—HAB. Jamaica, Nevis!, Antigua!, Dominica!, *Imr.;* [S. Croix to Curaçao].

37. **C. flocculosus,** *Geis.* Branchlets yellowish-tomentose; *leaves* ovate, or ovate-lanceolate, *acuminate*, scabrous above, *hoary beneath* with scattered stellate down, quite entire, 2-glandular at the base, long-petioled: glands *globose-scutelliform*, sessile; raceme terminal; seeds subcylindrical.—C. leprosus, *Spreng. ex Sieb. Mart.* 217 (*non W.*).—Nearly allied to the preceding.—HAB. Bahamas!, *Swains.;* [Haiti, Guadeloupe!, Martinique!].

38. **C. Guildingii,** *Gr.* (*n. sp.*). Branchlets hoary-tomentose; *leaves* ovate, *pointed*, cuneate at the base, scabrous above, *hoary beneath* with stellate down, *denticulate*, 2-glandular at the base: *glands scutelliform*, sessile; raceme terminal; seeds ovate, obtusely 2-angular, convex on both sides.—A shrub: habit of *C. humilis;* leaves 1″–1½″ long: petiole 3‴–6‴ long: stipules filiform, 1‴–2‴ long, subpersistent; raceme 1″ long; stamens 10–12; ♀ calyx deeply 5-fid: lobes oblong, blunt, appressed to and as long as the pubescent capsule; seeds 1¼‴ long, opaque, brown.—HAB. S. Vincent!, *Guild.*

** *Leaves woolly-tomentose on both sides.*

39. **C. flavens,** *L.* *Wholly tomentose* with yellowish, or hoary, stellate wool; leaves ovate, ovate-lanceolate, or elliptical, usually cordate at the base, bluntish, mucronulate,

2-glandular at the base, concolor with wool, repand-entire, rarely denticulate, long-petioled: *glands* minute, *stipitate;* raceme terminal; seeds subtetragonal-ovoid.—C. Richardi, *W.:* a form with the leaves rounded at the base.—A shrub, 2′–3′ high: branches thickish: wool persistent; stamens about 12; seeds 1‴ long: angles obtuse.—HAB. Jamaica!, all collectors, common in the southern plains; Trinidad!, *Schach;* [S. Thomas!].

*** *Leaves toothed.*

40. **C. corylifolius,** *Lam.* Branchlets hoary-tomentose with appressed down; *leaves* ovate or ovate-oblong, bluntish, *doubly toothed,* with the teeth glandular, glabrescent above, hoary, and at length pale-green beneath with scattered minute down, *2-glandular* at the top of the long petiole: glands scutelliform, thickly stipitate; raceme terminal, long; styles bifid.—*Desc. Fl.* 5. *t.* 366.—C. montanus, *Geis.*—An aromatic shrub; leaves 8″–3″ long, pellucid-punctate, chartaceous: petiole 1″–2″ long; calyx ♂ valvar, ♀ 5-fid; stamens 12. —HAB. Jamaica!, *Pd., Al.;* in pastures, S. Ann's, S. Elizabeth, Dominica!, *Imr.;* [Cuba!, Guadeloupe.]

41. **C. Iserti,** *Geis.* Branchlets hoary or rusty-tomentose with appressed down; *leaves* oblong or oblong-lanceolate, subcordate at the base, acuminate, *toothed,* scabrous with minute scattered down, glaucous beneath, *devoid of basilar glands; racemes* short, *axillary,* subsessile, twice as long as the petiole.—Leaves 4″–2‴ long, pellucid-punctate, chartaceous: petioles 6‴–3‴ long; ♂ calyx imbricative: stamens about 10: the ♀ flowers are wanting in our specimens.—HAB. Jamaica!, *March;* [Martinique].

Sect. 2. ELUTERIA.—*Stamens* 10–20. ♀ *Calyx valvate, usually corollate. Styles* 2-*partite, with* 2-*fid branches, or* 4-*partite, with the branches simple, or* 2-*fid. Seeds smooth.* —Aromatic, lepidote shrubs; leaves quite entire, or repand, stipulate, devoid of glands; racemes axillary and terminal.

42. **C. Eluteria,** *Sw.!* Branchlets rusty-lepidote; *leaves* ovate, entire or repand, blunt or pointed, glabrous, *rusty* or silvery-variegated *with distinct scales* chiefly beneath, pellucid-punctate: stipules evanescent; stamens 10–12; ♀ flowers corollate; styles bipartite, with 2-fid branches; seeds oval-oblong.—*Sl. t.* 174. *f.* 1, 2; *Kl. in Hayne Arzn.* 14. *t.* 1.—Clutia, *L.* Croton glabellus, *L.: ex. syn. Sl.* C. nitens, *Sw.!:* the common form with simple racemes (*Sl. f.* 1), or *C. Eluteria,* Bennett, while in the original *C. Eluteria,* Sw. (*C. Sloanei,* Benn.) the axillary racemes are compound: the specimen in Sloane's collection (*f.* 2) is the same, and so are Gronovius's and Catesby's specimens, quoted by Linnæus.—A high shrub, 8′ to above 20′ high; leaves 5″–2″ long, at length concolor, greenish: petiole 12‴–2‴ long, petals white, villous on the margin; seeds 4‴ long, opaque, blotched, convex on both sides.—HAB. Bahamas!, *Catesb., e.g.* Providence, Eleuthera; Jamaica!, all collectors, in the plains and lower hills; [Veraguas!, Cauca!].

43. **C. pseudochina,** *Schlecht.!* Branchlets silvery-lepidote: scales with a rusty centre; *leaves* ovate, with a bluntish point, minutely cordate at the base, repand-entire, glabrous, devoid of pellucid points, discolor, *shining-silvery beneath with confluent scales,* which are scattered above: stipules thickish, linear, somewhat persistent; racemes simple, as long as the petiole; stamens 10; ♀ flowers corollate; styles 4-partite, with the branches bifid or simple; seeds . . .—*Kl. in Hayne Arzn.* 14. *t.* 2.—Leaves 3″–1½″ long, green above, white beneath; petiole 10‴–2‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Lockh., Schach, Cr.;* [Mexico!, Venezuela!].

44. **C. laurinus,** *Sw.!* Branchlets and *petioles lepidote* with scattered, stellate-ciliate scales; *leaves* oblong, rounded or bluntish at the top, quite entire, bearing stellate-ciliate evanescent scales on the margin and distant ones on the surface, glabrate, concolor-green, *not lepidote,* but punctate with minute whitish points, chiefly above, devoid of pellucid dots: stipules thickish linear, deciduous; racemes slender, simple, equalling or exceeding the leaves; stamens 10; ♀ petals abortive; styles 4-partite, with the branches bifid; seeds "oblong."—A high shrub; leaves leathery, 6″–4″ long: midrib very prominent beneath: petiole 1″ long; pedicels numerous, scattered, 1‴ long; ♀ ones somewhat distant; petals white.—HAB. Jamaica!, *Sw., Al.,* on hills, Moneague.

Sect. 3. ASTRÆOPSIS.—*Stamens* 10–12. ♀ *Calyx reduplicative-valvate at the base. Styles* 4-*partite, with the branches simple* (*or* "*bifid*"). *Seeds smooth.*—Aromatic shrubs; leaves quite entire, or repand, glabrous, lepidote beneath or naked, stipulate, devoid of glands; racemes usually terminal.

45. **C. niveus,** *Jacq.* Branchlets rusty-lepidote; *leaves* ovate, *cuspidate-acuminate,* minutely cordate at the base, discolor, lepidote with distant, minute scales above, *shining-silvery beneath with confluent scales,* devoid of pellucid points: stipules persistent, linear or semicordate-lanceolate; calyx silvery-lepidote, ♀ costate at the base; seeds . . .—*Jacq. Amer. Pict. t.* 263. *f.* 79: a leaf.—C. micans, *Sw.!*—A shrub, about 10′ high; leaves 3″–1″ long, somewhat complicate at the base: petiole 2‴–4‴ long.—HAB. Jamaica!, *Sw.;* Dominica!, *Imr.;* [New Granada].

46. **C. lucidus,** *L.* *Devoid of scales;* branchlets glabrous or glabrescent; *leaves* elliptical or elliptical-oblong, pointed, *glabrous, pellucid-punctate:* stipules deciduous; calyx glabrescent, ♀ with the segments oblong, blunt, and the reduplicative margin somewhat persistent at the base; seeds ovoid-oblong.—*Phil. Trans.* 58. *t.* 7.—C. spicatus, *Berg.* C. Hookerianus, *Baill.*—A shrub, 5′–6′ high; leaves 3″–1″ (6″–5″) long: veins not prominulous; ♂ calyx imbricative, much smaller and more pubescent than ♀; seeds 2‴ long, shining, convex on the back.

α. Branchlets glabrous; ♀ calyx eglandular.

β. pubigerus. Branchlets (sometimes together with the younger leaves) puberulous with scattered, stellate hairs; ♀ calyx eglandular.

γ. glanduliferus, V. Branchlets glabrous; ♂ calyx bearing large, stipitate glands at the base and on the margin of the segments.—HAB. Bahamas!, *Swains.* (*β*); Jamaica!, *Pd.* (*α, β*), *March, Wils.,* (*γ*, S. Davids); [Cuba!, *α–γ*].

47. **C. Hjalmarsonii,** *Gr.* (*n. sp.*). Devoid of scales; branches glabrescent; *leaves cordate-ovate, blunt,* glabrous, eglandular, rigid, obsoletely pellucid-punctate: stipules deciduous; calyx ♂ pubescent, ♀ glabrescent, leathery, with the segments oblong, blunt, somewhat produced at the reduplicative subtruncate base; stamens 10.—Allied to *C. lucidus*; branchlets puberulous, rigid; leaves 1½″–1″ long, 1″–8‴ broad, quite entire, polished, opaque, with distant veins, black-dotted beneath: petiole 8‴–6‴ long; racemes terminal, short, subsessile, with the ♀ flowers somewhat distant; calyx ♂ as long as the scabrous pedicel, imbricative, downy chiefly on the margin; pedicels of ♀ ½‴ long, calyx 1½‴ long, exceeding the filiform petals, eglandular; ovary downy: styles 4-partite: branches filiform, flexuose, with a capitate stigma.—HAB. Turk Islands, *Hjalm.*

Sect. 4. ADENOPHYLLUM.—*Stamens* 20–50. *Styles* 2–4-*partite: branches simple. Seeds smooth.*—Shrubs; leaves glanduliferous on the margin, and at the base glabrous, or with stellate down: stipules glandular or inconspicuous; racemes usually terminal or alar.

48. **C. Wilsonii,** *Gr.* (*n. sp.*). Branchlets glabrescent, dichotomous; *leaves* elliptical or oblong-lanceolate, acuminate, *denticulate* with distant, glanduliferous teeth, *glabrous* above, glabrescent beneath: basilar glands subsessile or obsolete: stipules inconspicuous; stamens 25; *styles* 2-*partite*; seeds ovoid.—A shrub: branchlets stiff, scabrous with stellate, scattered down, which exists also on the young leaves beneath, but is wanting on the racemes; leaves approximate at the ramifications, green, with obscure, pellucid dots, chartaceous, arch-nerved, 4″–1½″ long, 1½″–8‴ broad, either abruptly or gradually acuminate: glands minute, globose, marginal ones subsessile, on obsolete teeth, those of the base 2–4, beneath the blunt or complicated leaf-base: petiole 2‴–4‴ long; racemes alar, nodding, subsessile, 3″–1″ long; ♂ pedicels 2‴ long, 3–1 from 3 minute bracts: calyx 1‴ long, imbricative, glabrous, as long as the ciliate petals; ♀ flowers inferior, subsessile, scattered: calyx 5-partite, 1‴ long, eglandular: segments linear: rudiments of petals minute, bearing bristles; ovary hispid, surrounded by a continuous disc: styles divided to the base, with the branches simple, as long as the ovary; capsule globose, 3-furrowed, glabrescent; seeds obtusely keeled on the back, furrowed along the raphe, nearly opaque, light-brown, somewhat punctate: lateral angles obtuse.—HAB. Jamaica!, *Pd., Wils.*

49. **C. Adenophyllum,** *Berter.* *Glabrous; leaves* ovate, pointed, subcordate at the base, repand-entire, *ciliate, with stipitate glands,* long-petioled, 2–4-glandular beneath at the base: basilar glands subsessile: stipules divided into several glands; stamens 20; ♀ calyx

bearing stipitate glands below; *styles* 4-*partite;* seeds . . .—Nearly allied to *C. penicillatus*, Vent., but distinguished by having glabrous leaves, and globose, subsessile, basilar leaf-glands.—HAB. Jamaica!

50. **C. humilis,** *L.* Branchlets pilose; *leaves* ovate or ovate-lanceolate, usually pointed, repand-entire or denticulate, scabrous above, *white-tomentose or glaucous-pubescent beneath*, bearing distant glands on the margin and two at the base: glands stipitate or subsessile, globose, minute: stipules minute, glanduliform, caducous; stamens ∞; *style* 4-*partite;* seeds oval.—A shrub, 1′–2′ high; leaves variable, 1″–3″ long, pellucid-punctate; raceme terminal, often few-flowered; petals white; seeds obsoletely furrowed, impressed around the caruncle.

α. Petioles long, half as long or as long as the limb: marginal glands numerous, stipitate.

β. *origanifolius*, Lam. Leaves shortly petioled: marginal glands rare, often subsessile. —*Desc. Fl.* 7. *t.* 471.—HAB. Bahamas!, *Swains.* (*β*); Jamaica!, all collectors; common in the southern maritime pastures; [Haiti!].

Sect. 5. BARHAMIA.—*Stamens* 10–12 (–"15"). ♀ *Calyx often glanduliferous. Styles* 4 (–6)-*partite: branches simple. Seeds smooth.*—Shrubs or herbs: down pilose; leaves usually serrate: stipules glanduliferous!, filiform, persistent.

51. **C. ovalifolius,** *West.!* Shrubby; branchlets softly pilose; *leaves* oval or oblong, blunt, mucronulate, *quite entire*, or crenate towards the top, glabrescent above, *pilose beneath* with soft, spreading, stellate hairs: *basilar glands none:* stipules exceeded by the petiole, bearing a few glands; raceme terminal, short, simple; ♀ calyx large: segments ciliate with stipitate glands; seeds roundish-oblong.—Barhamia, *Kl.* C. diffusus, *Rich.*—A low, diffuse shrub; leaves 12‴–8‴, petiole 4‴–3‴ long; seeds 1‴ long, shining, light-brown, convex on the back.—HAB. Jamaica!: *Al., March;* [S. Thomas!; Guadeloupe!, Venezuela!].

52. **C. urticifolius,** *Lam.* Suffrutescent or shrubby; branchlets pilose or hispid; *leaves* ovate, pointed, subcordate, *crenate-serrate*, with the crenatures glandular, scabrous with scattered stellate hairs, glabrescent above, 2–3 *times as long as the petiole: basilar glands subsessile:* stipules with distant glands; raceme terminal, cylindrical, solitary, or compound at the base; ♀ calyx pilose, glanduliferous, erect; seeds . . .—Stem herbaceous, growing woody below; leaves 2½″–1½″ long.—HAB. Trinidad!, *Lockh.*, *Cr.*, by roadsides; [Guiana, Brazil].

53. **C. populifolius,** *Sw.* Suffrutescent or shrubby; branchlets pilose or glabrescent; *leaves* subcordate-roundish, pointleted, *dentate-serrate*, with the teeth minutely glandular, glabrescent, *nearly as long as the pilose petiole: basilar glands* small, *stipitate:* stipules cut at the base into stipitate glands; racemes terminal and axillary, long; ♀ calyx pilose, glanduliferous, spreading: segments linear; seeds ovoid.—Stem herbaceous, growing woody below, 2′ high; leaves 3″–2″ diam.; styles 4-partite; seeds 1½‴ long, opaque, somewhat scabrous, convex on the back.—HAB. Jamaica (*Sw.*); S. Vincent!, *Guild.;* Grenada, Trinidad!, *Cr.*

Sect. 6. GEISELERIA.—*Stamens* 10 (8–10). *Styles bifid: branches simple. Seeds smooth.* —Herbs, rarely shrubs: down pilose; leaves serrate, bearing stipitate scutellate glands at the top of the petiole: stipules setaceous, persistent; racemes short, alar or terminal.

54. **C. glandulosus,** *L.* Annual, herbaceous, pilose; *leaves* oblong-lanceolate or ovate-oblong, blunt, *serrate*, glabrescent: *serratures truncate*; segments of the ♀ calyx equal, spathulate-oblong, blunt, nearly as long as the ovate-oblong capsule; seeds oval-roundish: *caruncle substipitate.*—*Jacq. Ic. Rar. t.* 41.—Leaves approximate at and exceeding the short racemes; seeds 1½‴ long, shining, brown, convex on both sides.—HAB. Jamaica!, *Macf.;* [Carolina to Mexico!, Quito, Pará!].

55. **C. chamædryfolius,** *Lam.* Annual, herbaceous, scabrous-pubescent; *leaves* ovate-lanceolate, pointed, *crenate-serrate*, glabrescent: *serratures spreading;* segments of the ♀ calyx lanceolate, bluntish, somewhat unequal, nearly as long as the globose capsule; seeds oval-roundish: *caruncle sessile.*—*Sl. t.* 82. *f.* 3.—Geiseleria, *Kl.*—Seeds 1‴ long, opaque-punctate, brown, convex on both sides.—HAB. Jamaica (*Sl.*); Trinidad!, *Cr.;* [Haiti; Panama!, Guiana!].

56. **C. hirtus,** *L'Hér.* Annual, herbaceous, hispid; *leaves* ovate-roundish or ovate, blunt, *doubly crenate*, canescent beneath; *segments of the ♀ calyx unequal*, lanceolate, 4–3 as long as the globose capsule, 1–2 smaller; seeds oval-roundish: caruncle sessile.—*L'Hér. Stirp.* 1. *t.* 9. Brachystachys, *Kl.*—Styles often more deeply bifid than in the preceding; seeds $1\frac{1}{2}'''$ long, shining, obsoletely striated.—HAB. Jamaica!, *Al.*; Trinidad!, *Schach, Cr.*, in fields; [New Granada! and Venezuela! to Brazil!].

Sect. 7. ASTRÆA.—*Stamens* 12–15. *Styles* 3–8-fid: *branches simple. Seeds verrucose!, oblong.*—Herbs or shrubs; leaves usually palmatilobed: stipules persistent; racemes long: ♂ flowers usually fascicled.

57. **C. lobatus,** *L.* Annual, herbaceous or suffrutescent, pilose; longer hairs simple; *leaves* 3–5-*partite*: segments elliptical or elliptical-lanceolate, acuminate, serrate; stamens 12–13: inner series 2–3-androus; capsule as long as the hairy calyx.—*Martyn, Hist. t.* 46. —Astræa, *Kl.*—Stem $1'$–$2'$ high; seeds $2'''$ long, with large warts on the sides, keeled on the back and along the raphe, apiculate behind the caruncle, light-brown, opaque.—HAB. Caribbean Islands, and Trinidad!, *Lockh., Schach, Pd.*: a weed; [Cuba! and Mexico, to Brazil and Ecuador!].

Sect. 8. CYCLOSTIGMA.—*Stamens* 15–∞. *Styles bipartite: branches simple.—Trees or shrubs: down tomentose with stellate hairs; flowers of both sexes mixed!: the ♀ central in the special cymules, which are arranged in a terminal raceme.*

58. **C. gossypifolius,** *V. Arboreous;* branchlets tomentose; *leaves cordate-trifid*, stellate-pubescent above, hoary-tomentose, and at the base 2-glandular beneath: lobes ovate, pointed, quite entire.—*Vahl, Symb.* 2. *t.* 49.—A low tree, $15'$ high.—HAB. Trinidad!, *Lane.*

Sect. 9. LASIOGYNE.—*Stamens* 15–20. *Styles deeply 8-fid: branches simple. Seeds ovate-oblong, glabrous, punctate.—Tomentose shrubs: down stellate; leaves denticulate, or repand-entire: stipules deciduous; racemes terminal.*

59. **C. astroites,** *Ait.* Leaves ovate, pointed, cordate at the base, scabrous-tomentose above, hoary-tomentose beneath: *basilar glands none; segments of ♀ calyx obtusely keeled on the back.*—C. phlomoides, *Pers.* Lasiogyne, *Griseb. Carib.*—A low shrub, $1'$–$5'$ high.—HAB. Antigua!, *Wullschl.*; [S. Thomas!, Désirade!, Guadeloupe!].

14. ACIDOCROTON, *Gr.*

(Acidoton, *P. Br., non Sw.*)

Flowers monœcious, ♂ and ♀ on distinct branches. ♂: *Calyx* 5-partite, valvate; petals 5; stamens ∞, distinct, included: anthers adnate, introrse, mucronate. ♀: *Calyx* 5-partite: segments alternating with mucroniform points; petals 0; ovary surrounded by a ciliate disc, 3(–4)-celled: styles 3, obovate-foliaceous, bipartite, revolute-spreading. *Capsule* 3-coccous. *Seeds* carunculate, ovate-oblong: raphe distinct.—Peduncles *terminal, subsolitary.*

60. **A. adelioides,** *Gr.*—Adelia acidoton, *L.* (*non Kth.*).—A very spiny shrub, $4'$–$6'$ high, diffuse: spines stipular, spreading, $4'''$–$8'''$ long, thin, exceeding the contracted-rosular, leaf-bearing, hairy, but at length excrescent, and glabrate branchlets; leaves coætaneous, obovate or obovate-roundish, glabrous, quite entire, $4'''$–$2'''$ long, shortly petioled: stipules setaceous, almost $1'''$ long, and excrescent; peduncles of both sexes terminal, 1-flowered, solitary, or a few together, ♂ $1'''$ long, ♀ $3'''$–$4'''$ long, cernuous, pubescent. ♂: Calyx $\frac{1}{2}'''$ long: segments oval-roundish, ciliate; petals $1'''$ long, oval-roundish, ciliolate; disc scutelliform, free on the villous margin, and 10-lobed; stamens about 25–30, covering the disc: anthers ovoid, with the connective dilated on the exterior side, and shortly mucronate. ♀: Calyx $2'''$–$3'''$ long, glabrescent: segments obovate, contracted at the base, with the sinus open, and bearing a stipuliform, setaceous ($\frac{1}{2}'''$ long) point; disc entire, circular, villous; ovary smooth, equalling the calyx: cells 1-ovulate: styles $1'''$ broad at the rounded top, with the branches contiguous, depressed, somewhat convex on the upper side; capsule $4'''$ diam., smooth, glabrous: cocci bivalved, with the endocarp loosened; seeds $3'''$ long, $2'''$ broad, convex on the back, obsoletely tetragonal, brown, opaque, at length shining, subtruncate around the whitish caruncle: sides obsoletely rugulose transversely.—HAB. Jamaica!, *Sw.*; at New Greenwich (*P. Br.*); [Cuba!, on the rocky banks of the Yumury, *Rugel*].

15. METTENIA, *Gr.*

Flowers diœcious. *Calyx:* " ♂ 3-fid;" ♀ 5-partite, imbricative. *Petals* 0. "*Stamens* biseriate, monadelphous, 4 exterior inferior, 3 interior: anthers didymous." *Ovary* hispid, 3-celled, surrounded by a laciniate disc; styles 3, bipartite, spreading, papillose to the base. *Capsule* echinate, globose, 3-coccous. *Seeds* carunculate, globose-compressed: raphe at length none.—A tree *or* shrub; leaves *leathery, quite entire, exstipulate;* racemes *terminal, pubescent:* flowers *fasciculate.*

61. **M. globosa,** *Gr.*—Croton, *Sw.* Ricinus, *W.*—30′ (*Pd.*), or 4′–5′ high (*Sw.*): branchlets pubescent with simple hairs; leaves ovate, blunt, or bluntish, 2″–1″ long, glabrescent, shining above: petiole thickish, 1‴–2‴ long; ♀ racemes shortly peduncled, 1″ long: pedicels 5–2 together, 1‴ long; calyx 1‴ long, much imbricated: segments ovate, blunt, as long as the pistil; capsule 4‴ diam., covered with bluntly pyramidal, scabrous prickles; seeds 2‴ diam., even, brown (the exterior whitish membranaceous integument being destroyed spontaneously, together with the raphe): caruncle large, convex, entire.—Hab. Jamaica!, *Macf.*, *Pd.*, rare in the high mountains, *e.g.* Moorce's Gap.

16. MABEA, *Aubl.*

Flowers monœcious. *Calyx* 5–6-lobed. *Petals* 0. *Stamens* ∞, distinct, inserted upon a convex disc: anthers adnate, extrorse, mucronulate. *Style* 3-fid: branches simple, revolute, filiform. *Capsule* 3-coccous. *Seeds* ovoid.—Trailing shrubs; leaves *undivided, stipulate;* flowers *in racemiform panicles, inferior* ♀.

62. **M. Taquari,** *Aubl.* *Branchlets pubescent;* leaves oblong, pointleted, rounded at the base, serrulate or subentire, glabrous above, hoary and puberulous or glabrate beneath; ♂ flowers long-pedicellate, ternate: *fascicles peduncled;* seeds . . .—*Aubl. t.* 334.—Hab. Trinidad!, *Cr.*, in the savannah of Aripe; [Guiana, équatorial Brazil].

63. **M. occidentalis,** *Benth.* *Glabrous;* leaves oblong, serrulate or subentire; ♂ flowers long-pedicellate, ternate: *fascicles sessile;* seeds ovoid-oblong, ecarunculate.—Seeds 3‴–4‴ long, 2‴–3‴ broad, shining-brown. In my Panama specimens of *M. Piriri*, Aubl., the seeds are ovoid-globose, 2½‴ long and thick, and they have a distinct, discolor caruncle. —Hab. Trinidad!, *Cr.;* at S. Ann's; [Panama, Guiana, Bahia].

Subtribe 4. *DITAXIDEÆ.—Inflorescence centripetal, racemose: bracts 1-flowered: flowers monœcious,* ♀ *inferior, or diœcious. Stamens inserted around the abortive pistil. Seeds globose, ecarunculate.*

17. CAPERONIA, *St. Hil.*

Flowers monœcious (or diœcious). *Calyx:* ♂ 5(–6)-partite, imbricative; ♀ 5–10-partite, unequal. *Petals* 5. *Stamens* 10–8, distinct, inserted into the gynophore of the abortive pistil: discal glands 0. *Styles* cut into many branches. *Capsule* 3-coccous, echinate. *Seeds* punctate, globose, ecarunculate.—Annual herbs: stem *simple;* leaves *penninerved-costate, sharply serrate:* stipules *persistent;* racemes *axillary.*

64. **C. castaneifolia,** *St. Hil.* *Stem hispid* with glands; leaves broadly lanceolate, or lanceolate-linear, acuminate, 16–20-costate; racemes androgynous, as long as, or half as long as the leaves: ♀ flowers 3–1: *calyx ciliate with stipitate glands:* ♀ 6(–10)-partite: 5 segments larger, equal; capsule densely glandular, and at length muricate.—*Plum. Ed. Burm. t.* 239. *f.* 1; *Bot. Mag. t.* 2794.—Croton, *L.*, *Kth.* C. palustris, *Geis.* (*exclus. a et synon.*). Lepidococca Sieberi, *Turcz.!:* a form with the 5 smaller calyx-segments of ♀ developed.—1′–2′ high; leaves glabrate, either subsessile or with the petiole ½″–1″ long; petals white.—Hab. Trinidad!, *Schach, Cr.*, in swamps; [Haiti! to Brazil!, Panama! to Guayaquil!].

65. **C. palustris,** *St. Hil.* Glabrescent; leaves elliptical, ovate or oval-roundish, pointed or blunt, 10–15-costate; racemes androgynous, 2–3 times exceeded by the leaf, ♀ subsolitary; *calyx eglandular,* ♀ 6–5-partite: 3 segments larger, equal; capsule muricate above.—Croton, *Kth.:* Linnæus's synonym (*Ic. Mart. Hist. t.* 38) is not quite certain, the stem in Martyn's native specimen being glandular, though glabrous in his cultivated one.

—Stem with appressed, eglandular down, or glabrous; leaves glabrous, or pubescent only on the ribs beneath, 3″–1″ long: petiole 10‴–3‴ long; prickles of the capsule deltoid, greenish, terminated with a gland, which is early deciduous.—HAB. Jamaica!, *Dist.*, in swamps; [New Granada!, Brazil!].

18. DITAXIS, *V.*

Calyx 5-partite, valvate. *Petals* 5, contorted, or none. *Stamens* biseriate, inserted into the gynophore of the abortive pistil, 5 superior, 5–10 inferior: anthers subglobose, introrse. *Discal glands* 5. *Styles* bifid: stigmas crenate. *Capsule* 3-coccous. *Seeds* even, globose, ecarunculate.—Shrubs, *containing a purple pigment;* leaves *undivided, stipulate;* racemes *axillary, few-flowered, subsessile, either androgynous, with the ♀ flower solitary, inferior, and appearing terminal if the pedicel is excrescent, or diœcious.*

66. **D. glabella,** *Gr.* *Leaves* obovate, elliptical-lanceolate, or lanceolate, *remotely serrate* above the base, glabrate, shortly petioled; *flowers monœcious,* ♂ 2–3, shortly pedicellate, *four times exceeded by the excrescent,* cernuous pedicel of the ♀; petals spathulate, exceeding the calyx; stamens 10; capsule pilose.—*Juss. Euph. f.* 24.—D. fasciculata, *V. ap. Juss. non descr.* (*non Schlecht.*).—A shrub, 3′–4′ high; leaves 4″–1″ long, 15‴–6‴ broad, pointed or bluntish, subsericeous with scattered, caducous hairs; ♀ calyx 2‴, at length 4‴ long; petals 3‴ long.—HAB. Antigua!, *Nichols.;* S. Vincent!, *Guild.;* Trinidad!, *Lockh.*, *Cr.;* [Venezuela!].

D. fasciculata, Schlecht. (*Linnæa,* 6. *p.* 762), of S. Thomas and Venezuela!, is distinguished by having smaller, quite entire leaves, and by the short pedicel of ♀, which at length exceeds scarcely the ♂.

67. **D. hæmiolandra,** *Gr.* (*n. sp.*). *Leaves* spathulate-lanceolate or lanceolate, *quite entire,* glabrous, shortly petioled; *flowers diœcious:* ♂ racemes glomeruliform, a little longer than the petiole, 5–8-flowered; *petals none;* stamens 15.—Habit and insertion of the stamens as in the typical species. A white-barked shrub; leaves 3″–1½″ long, 12‴–6‴ broad, chartaceous, bluntish, tapering towards the base, arch-nerved with 3–5 distant veins: petiole 2‴–3‴ long: stipules minute, linear, deciduous; ♂ racemes contracted, with accessory, basilar, abortive buds: pedicels 1‴ long, and calyx pubescent: segments 1‴ long, ovate-lanceolate, pointed, glabrous within, exceeded a little by the stamens; discal glands 5; gynophore cylindrical: inferior filaments 10, proceeding from its middle, superior 5 inserted at the top: anthers ovoid; ♀ unknown.—HAB. Jamaica!, *Macf.*, *Pd.*

19. ARGYTHAMNIA, *P. Br.*

Flowers monœcious. *Calyx* 4–5-partite, valvate. *Petals* 4–5, included, cut at the top (or in the ♀ none). *Stamens* 4–5, cohering at the very base, and surrounding a central rudiment: anthers subglobose, introrse. *Discal glands* 4–5. *Styles* cut into 3–8 branches. *Capsule* 3-coccous. *Seeds* globose, ecarunculate.—Shrubs, *containing a purple pigment;* leaves *undivided, stipulate;* racemes *axillary few-flowered, subsessile:* flowers *shortly pedicellate,* 3–1 *inferior* ♀.

Chiropetalum, Juss. (*Serophytum,* Benth.) and *Ditaxis,* which have the same colouring matter in the leaves and flowers, are nearly allied, being chiefly distinguished by the high, staminiferous gynophore.

68. **A. candicans,** *Sw.* Leaves lanceolate, tapering at both ends, remotely serrate above the base, pubescent, chiefly beneath, shortly petioled: *hairs* subsericeous, *caducous;* stamens 4, exserted; styles 4–8-fid; seeds smooth, variegated.—*Sl. t.* 86. *f.* 3.—A white-barked-shrub, 5′–1′ high; leaves 3″–6″ long: petiole 1‴ long, or shorter; racemes contracted, ♂ flowers 3–4, ♀ subsolitary; ♂ calyx 4-, ♀ 5-partite; petals white, in ♀ smaller, or abortive.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, *Wils.*, on arid soil, from the coast to the lower hills; [Cuba! to Caribbean Islands].

69. **A. sericea,** *Gr.* (*n. sp.*). *Leaves* obovate, mucronate, quite entire, subsessile, *sericeous: down persistent;* stamens 5, as long as the calyx and petals; styles 3–4-fid; seeds punctate-scabrous.—A low, leafy shrub, entirely covered with silky down; leaves 12‴–8‴ long, 8‴–5‴ broad: principal veins 3–4 on each side, straightish, prominulous, parallel to the cuneate leaf-base: stipules lanceolate-setaceous, persistent, ½‴ long; racemes contracted

scorpioid, 4''' long. ♂: Flowers 3–4, one above the other, 2–3-bracteolate, shortly pedicellate, 1''' long; calyx 5-partite: segments lanceolate; petals reddish, lanceolate, cut at the blunt top; discal glands alternating with the petals; stamens opposite the petals: filaments slightly cohering at the base. ♀: Flowers subsolitary, inferior, shortly pedicellate; calyx as in ♂; petals none; ovary 3-globose, villous: styles cut into linear, unequal branches at the top; capsule depressed, 2''' diam.; seeds ½''' diam.—Hab. Bahamas!, *Swains.*

Subtribe 5. *ACALYPHEÆ.—Inflorescence centripetal, mostly racemose, or spicate: ♂ bracts usually several-flowered. Flowers apetalous, ♂ calyx valvate. Seeds globose or ovoid: caruncle none, or obsolete.*

20. ACIDOTON, *Sw.*

Flowers diœcious ("rarely monœcious on distinct branches"). *Calyx* ♂ 5-, ♀ 6(–5)-partite. *Stamens* ∞, 4-seriate, distinct, inserted upon a conical disc: anthers oblong, extrorse, minutely 2-aristate. *Style* 3-fid: branches simple, thick, papillose. *Capsule* 3-coccous. *Seeds* ecarunculate, ovoid, smooth.—A shrub; leaves *entire, stipulate;* racemes *axillary,* ♂ *contracted.*

70. **A. urens,** *Sw.!—Sl. t.* 83. *f.* 1: leaves. *Sw. Fl. f.* 18: *analyt. Baillon, Euph. t.* 18. *f.* 10, 11: stamens.—A. innocuus, *Baill.!*—5'–10' high; leaves oblong-lanceolate, pointed, 3''–5'' long, shortly petioled, quite entire, or repand, glabrous, shining above, with reticulated veins, ciliate with stinging, deciduous hairs: stipules triangular-subulate, persistent; racemes hairy, ♂ few-flowered: pedicels single, 4'''–6''' long; ♀ racemes long, with distant flowers: pedicels ½'''–1''' long; calyx (2''' long) and capsule covered with stinging hairs; seeds rusty.—Hab. Jamaica!, *Pd., Al., March,* in the limestone hills of the central and western districts.

21. ADELIA, *L.* (*non P. Br., nec Juss.*).

Flowers diœcious. *Calyx* 5-partite. *Stamens* 12–15, distinct, inserted into the prominulous centre of the perigynous disc: anthers ovoid-oblong, extrorse. *Styles* 3, cut into many, bluntly filiform, short branches. *Capsule* 3-coccous. *Seeds* ecarunculate, globose, smooth.—Shrubs; leaves *quite entire:* stipules *deciduous:* ♂ flowers *fasciculate, in axillary or lateral clusters,* ♀ *fasciculate or solitary, long-pedicellate.*

71. **A. Ricinella,** *L. Leaves* obovate or spathulate, glabrous, *subsessile;* clusters of ♂ flowers whitish-pubescent: pedicels as long as the globose bud; ♀ pedicels 3–1, as long as the leaves, glabrate, terminal on villous, abortive, bud-like branchlets, which are surrounded by fasciculate leaves; capsule and calyx pubescent.—A white-barked, erect shrub, 6'–10' high: branches spreading, sometimes spinescent; leaves 2''–1'' long, minutely pellucid-dotted, chartaceous, deciduous; calyx 1''' long: segments ovate-lanceolate, with a bluntish point, reflexed from the capsule; seeds pale.—Hab. Jamaica!, *Macf., Pd., March,* in the limestone districts of Port Royal, in arid places of Westmoreland; [Cuba!, at Matanzas].

22. BERNARDIA, *P. Br.*

(Adelia, *Juss.* Tyria, *Kl. ap. Endl., non Kl. Eric.*)

Flowers diœcious. *Calyx:* ♂ 3(–"5")-partite; "♀ 6–5-partite, biseriate." *Stamens* 15–20, distinct: interior central, mixed with some glands: anthers cruciate-globose, with 2 cells anterior, 2 posterior. "*Styles* 3, short, lacerate-crenate." *Capsule* 3-coccous.—Shrubs; leaves *serrate, stipulate;* ♂ spikes *amentiform, axillary:* flowers *sessile in the axil of a bract, bracteolate;* "♀ flowers *few, or solitary, subterminal, 3-bracteate.*"

72. **B. carpinifolia,** *Gr. Leaves* ovate-oblong, with a bluntish point, obtusely serrate, stellate-pubescent above, *tomentose beneath;* ♂ spikes as long as the petiole, sessile.—*Juss. Euph. f.* 28: *analyt.:* differing by a 5-partite ♂ calyx, while in our specimens it is 3-partite.—Adelia Bernardia, *L., ex. synon. P. Br.*—A tomentose shrub, 10'–2' high: habit of *Salix Caprea;* leaves 3''–1½'' long, rounded at the base, tapering from the middle, bearing usually 2 glands on the under side: primary veins distant, prominulous beneath: petiole 6'''–3''' long, thickish, tomentose: stipules 1''' long, setaceous; ♂ spikes 6'''–4''' long, tomentose: bracts ovate, acute, including the globose flower: lateral bracteoles shorter, lanceolate;

calyx-segments 3, ovate, acute, nearly equalling the stamens; central disc minute; anthers yellow.—HAB. Jamaica!, *Wils.*, *March*.

23. LASIOCROTON, *Gr.*

Flowers "monœcious, inferior ♀." *Calyx* ♂ 4-partite. *Stamens* 8 (7–14), inserted upon a minute disc: anthers oblong, adnate: cells curved, introrse. *Styles* . . . *Capsule* 3-coccous. *Seeds* globose, ecarunculate.—A shrub; *habit of* Bernardia; leaves (*resembling those of* Verbascum) *tomentose, veiny-archnerved beneath;* spikes *simple, axillary:* ♂ flowers *sessile, glomerate.*

73. **L. macrophyllus,** *Gr.*—Croton, *Sw.!*—A high, leafy, tomentose shrub; leaves ovate or roundish, 4″–3″ long, cordate at the base, bluntish, quite entire, or repand, with the thickish margin subrevolute, pale-green above, hoary with yellowish veins beneath: secondary veins transverse and reticulated: petiole 2‴–8‴ long, articulated at the exstipulate base; spikes shortly peduncled: bracts including a glomerule of 3–5 ♂ flowers, at length distant; ♂ calyx valvate, 1‴ long, bearing dense yellow wool on the back: segments 3-angular; stamens included, distinct: filaments purple, as long as the anthers; capsule (lying loose in Swartz's collection) tomentose; seeds ½‴ diam., smooth, ash-coloured: raphe distinct, delicate.—HAB. Jamaica!, *Sw.*, *March* (♂).

24. ALCHORNEA, *Sol.*

Flowers diœcious. *Calyx* 4(5–3)-partite. *Stamens* 8 (6–9), inserted upon a scutelliform disc: anthers oblong, adnate, introrse. *Styles* 2 (–3), liguliform, simple, long-exserted. *Capsule* subdrupaceous: cocci at length bivalved. *Seeds* globose, ecarunculate.—Woody plants; leaves *veiny-archnerved beneath;* spikes *usually compound.*

74. **A. latifolia,** *Sw.* Arboreous; *leaves* broadly oval (ovate or obovate), serrulate, *glabrous, eglandular at the base,* subtriplinerved, long-petioled: serratures distant, glandular; spikes compound, the ♀ with a few branches, or simple: ♂ flowers glomerate, ♀ single, distant, sessile; styles linear, twisted, suberect, six times exceeding the ovary; seeds rugulose. —*Sw. Fl. f.* 24, *analyt.; Lam. Ill. t.* 998.—A middle-sized tree, leaves 8″–3″ long; calyx yellowish-green, styles 2, 8‴–6‴ long; capsule didymous, 4‴ broad: seeds 2‴ diam.—HAB. Jamaica!, all collectors, common, being the characteristic tree of the pasture-vegetation.

25. PLUKENETIA, *L.*

Flowers monœcious. *Calyx* 4(–5)-partite. *Stamens* 8–20, inserted upon a prominulous disc: anthers cruciate-globose. *Style* simple, long-exserted: stigma 4(–3)-lobed, fleshy. *Capsule* 4(–3)-coccous. *Seeds* "rugulose."—Climbing shrubs; leaves *cordate, 2-glandular at the base, stipulate;* racemes *spiciform, axillary:* ♂ flowers *glomerate,* ♀ 1(–2), basilar.

75. **P. volubulis,** *L.* Glabrous; leaves cordate, pointleted, serrulate or repand; racemes as long as the petiole; calyx 4-partite; capsule 4-coccous: "*angles keeled.*"—*Lam. Ill. t.* 788.—HAB. Dominica!, *Imr.*

26. POLYBŒA, *Kl. ap. Endl.*

Flowers monœcious. *Calyx:* ♂ 3-partite; ♀ 5–6-partite. *Stamens* 9, distinct, central: anthers 2-globose, laterally dehiscent. *Ovary* surrounded by a disc: styles 3, bipartite. *Capsule* 3-coccous. *Seeds* obovoid, ecarunculate.—A shrub; leaves *serrate, stipulate;* ♂ racemes *spiciform, axillary:* clusters *distant, included within a cucullate bract;* ♀ flowers *in a short, terminal spike.*

76. **P. corensis,** *Kl.*—*Br. Jam. t.* 36. *f.* 1; *Jacq. Amer. Pict. t.* 241.—Acalypha, *Jacq.*—4′–8′ high, glabrescent; leaves obovate, 3″–2″ long, coarsely serrate, shortly petioled; ♂ racemes 6‴ long; ♀ flowers 3–4: bracts 3-partite; seeds rosy: exterior integument evanescent.—HAB. Jamaica (*P. Br.*); Antigua!, *Nichols.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Venezuela!].

27. ACALYPHA, *L.*

Calyx ♂ 4–, ♀ 3(–5)-partite. *Stamens* 8–16, inserted into the central disc: anthers

extrorse: cells free, hanging from the top of the filament, usually oblong-contortuplicate. *Styles* 3, multifid (rarely bifid): branches setaceous. *Capsule* 3-coccous. *Seeds* minute, subglobose: caruncle none, or obsolete.—Leaves *usually serrate, stipulate;* spiciform racemes, *or* spikes, *axillary or terminal, the ♀ sometimes reduced to a cluster:* flowers *minute, ♂ bracts several-flowered, ♀ often excrescent, cucullate, crenate.*

§ 1. *Diœcious shrubs; ♂ flowers in spiciform racemes, ♀ glomerate.*

77. **A. betulifolia,** *Sw.* Branchlets püberulous; *leaves* oval-roundish, or oval, *rounded at the base,* shortly petioled, *crenate* or crenate-serrate, *glabrous,* with the midrib puberulous beneath, as long as the glabrous ♂ racemes; ♀ flowers axillary, few in the cluster: bracts cucullate-roundish, divided into 4–9 large, ovate, glabrous teeth; seeds ovate, blunt.—A diœcious shrub, 1′–2′ high; leaves 16‴–4‴ long; seeds ½‴ long: caruncle obsolete.—Hab. Jamaica!, *M'Nab, Wils., Al.,* in the southern limestone districts.

78. **A. scabrosa,** *Sw.* Branchlets pubescent; *leaves* ovate or lanceolate, *cuneate at the base, serrate* or crenate-serrate, *pubescent,* chiefly *beneath,* or glabrescent, nearly as long as the subsessile, hispidulous ♂ racemes; ♀ flowers axillary, few in the cluster: bracts cucullate, divided into 4–9 large, ovate, ciliate teeth; seeds subglobose.—A diœcious, variable shrub, 12′–2′ high; leaves 2″–1″ long, 10‴–4‴ broad: petiole 4‴–2‴ long; seeds ovoid-subglobose, ⅓‴ long, ecarunculate.

α. Leaves lanceolate, or oblong-lanceolate, with a bluntish point.

β. *ovata.* Leaves ovate, blunt, glabrescent.

Hab. Jamaica!, all collectors, in the southern limestone districts, and on the seashore.

§ 2. *Monœcious shrubs; ♂ flowers in spiciform racemes, ♀ spicate.*

79. **A. virgata,** *L., Sw.!* Branchlets puberulous; leaves oblong-lanceolate or elliptical, pointleted, obtusely serrate, glabrous; racemes and spikes axillary, filiform, shortly peduncled, ♂ superior, or usually on distinct branches; ♀ *bracts* cucullate, roundish, *toothed: teeth ovate.—Br. Jam. t.* 36. *f.* 2.—A monœcious shrub, about 15′ high; leaves 4″–2½″ long, 1½″–2″ broad, usually exceeding the racemes: petiole 4‴–8‴ long: stipules shortly subulate, caducous.—Hab. Jamaica!, *Sw., Wils., March.*

80. **A. elliptica,** *Sw.* Branchlets glabrescent; leaves elliptical-oblong or elliptical-lanceolate, acuminate, obtusely serrate, glabrous or glabrescent, long-petioled; racemes and spikes axillary, long, filiform, peduncled, superior ♂ or androgynous or on distinct branches; ♀ bracts cucullate, cuneate at the base, *palmatifid* to the middle, at length toothed by growth of the inferior part: *lobes oblong.*—Leaves 7″–3″ long, 2½″–1″ broad, subglandular above at the base: petiole 2″–1½″ long: stipules shortly subulate; racemes hairy or glabrescent, 8″–3″ long, slender, nearly as long or half as long as the leaves.—Hab. Jamaica!, *Pd., Dist.,* in the mountains.

81. **A. hernandifolia,** *Sw.* Branchlets glabrescent, leaves ovate, pointed, serrate, glabrous, long-petioled, 5-nerved at the emarginate base; racemes and spikes axillary, filiform, shortly peduncled, ♂ and ♀ on distinct branches; ♀ *bracts* cucullate, roundish, *denticulate:* teeth minute, 3-angular.—A monœcious shrub, 6′ high; leaves 6″–2″ long, 3″–1″ broad: petiole 3″–1″ long: stipules broadly semicordate-subulate, caducous; racemes 6″–2″ long, the ♀ spikes either inferior or superior.—Hab. Jamaica!, *Pd., Al.,* in woods, *e.g.* S. Ann's; S. Vincent!, *Guild.;* [Cuba!, Venezuela!].

82. **A. villosa,** *Jacq. Shrubby; branchlets pubescent;* leaves ovate, pointed, serrate, hispidulous chiefly on the nerves beneath, long-petioled; stipules subulate; ♂ racemes filiform, on distinct branches, and ♀ spikes exceeded by the leaves; ♀ *bracts* cucullate, roundish, *toothed,* small, nearly as long as the ovary, *not excrescent: teeth ovate.—Jacq. Amer. Pict. t.* 240.—16′ high; leaves 5″–6″ long, 2″–3″ broad: petiole 1½″–5″ long; stipules 4‴ long; racemes and spikes 3″–4″ long, shortly peduncled: ♀ flowers distant from each other.—Hab. Jamaica!, *Wils.,* S. Thomas in the East; [Panama!, New Granada].

83. **A. macrostachya,** *Jacq.* Branchlets glabrescent; leaves large, elliptical, pointleted, serrate or obtusely denticulate, repand, glabrous: *stipules long,* rigid-membranaceous, concave-lanceolate, acuminate; racemes and spikes axillary, long-filiform, shortly peduncled; ♀ *bracts* hairy, cucullate, exceeded by the styles, *toothed: teeth linear, pointed.—Jacq. Schœnbr. t.* 245.—A monœcious shrub; leaves 10″–6″ long, 5″–2½″ broad: petiole 2″–1½″

long: stipules 4‴ long; racemes 6″–4″ long, ♀ spikes inferior or in the middle: ♂ glomerules imbricate.—HAB. Trinidad!, *Schach, Lockh., Pd., Cr.*, in the mountains of Maraval, S. Ann's; [Caracas].

84. **A. lævigata,** *Sw.* Branchlets glabrescent; leaves elliptical-lanceolate, pointleted or bluntish, serrate, glabrous, shortly petioled; ♂ racemes axillary, filiform, shortly peduncled, exceeding the leaves; ♀ *spikes half as long, superior: bracts* distant, cucullate, roundish, *palmatifid* to the middle: *lobes lanceolate*, the middle longer.—*Desc. Fl.* 5. *t.* 379.—A. carpinifolia, *Desc.*—A monœcious shrub, 2′–3′ high; leaves 2″–3″ long, 1″ broad: petiole 2‴–3‴ long: stipules minute, ovate; racemes 4″–3″ long, cernuous; spikes 2″–1″ long, few-flowered.—HAB. Jamaica!, *Macf., Pd., Wils.*, in woods, *e.g.* Manchester.

§ 3. *Androgynous shrubs; ♂ flowers in spiciform racemes, which have sessile ♀ flowers at the base.*

85. **A. cuspidata,** *Jacq.* Branchlets pubescent; leaves subcordate-ovate, acuminate, serrate, 5-nerved at the base, long-petioled, pubescent or glabrate above, hoary-pubescent or glabrescent beneath; *racemes* axillary, filiform, shortly peduncled, *with* 3–1 *sessile ♀ flowers at* and above *the base of the peduncle; ♀ bracts* dilated-roundish, toothed or repand, *sheathing* (or abortive).—*Jacq. Schœnbr. t.* 243: a form with the ♀ bracts abortive or transformed into leaves.—A. biserrata, *Berter.*—A shrub, 2′–3′ high, or higher; leaves 4″–2″ long: petiole 18‴–8‴ long: stipules lanceolate; racemes as long as the petiole, with accessory clusters of ♀ flowers in the lower axils; seeds ovate-globose, ecarunculate.—HAB. Jamaica!, *Macf.*, at Halberstadt; S. Vincent!, *Guild.*; [Portorico, Caracas].

§ 4. *Herbaceous: terminal or superior spikes ♀, inferior racemes ♂.*

86. **A. polystachya,** *Jacq.* *Annual;* stem pubescent, erect; leaves ovate, pointed, serrate, cordate at the base, glabrescent; *racemes and spikes filiform*, the ♂ racemes from the inferior axils peduncled, *the ♀ spikes terminal*, or similar ones from the uppermost axils subsessile: bracts cucullate-palmatifid, with linear, pointed lobes.—*Jacq. Schœnbr.* 2. *t.* 246: the styles however are multifid in our plant, as in *A. polystachya*, var. *lacera*, Kunze!—HAB. Jamaica!, *Wulls.*, S. Elizabeth; [Cuba!, Haiti].

§ 5. *Herbaceous: terminal raceme ♂ or androgynous.*

87. **A. reptans,** *Sw.* *Herbaceous* or suffrutescent, pubescent or glabrate; leaves ovate, blunt, or roundish, crenate; *terminal raceme* subsessile, cylindrical, ♂ and bearing usually ♀ sessile flowers at the base: superior axils furnished with similar androgynous racemes, or ♀ clusters; ♀ bracts roundish, dentate or crenate: teeth ovate.—*Sl. t.* 82. *f.* 3.—A. corchorifolia, *W.*: the form with the terminal raceme devoid of ♀ flowers. The observation on the anthers of this and *A. villosa*, Jacq. (Pl. Carib. p. 22; Novit. Panam. p. 1), is erroneous.—Palmar, cæspitose, or creeping; leaves 6‴–10‴ long, pellucid-dotted; androgynous raceme 1″ long.—HAB. Jamaica!, *M'Nab, Wils.*, in crevices of rocks, stone walls, or dry pastures; [Cuba!, Guadeloupe!].

28. TRAGIA, *L.*

Flowers monœcious. *Calyx* ♂ 3-, ♀ 3–8-partite. *Stamens* 3–1: anthers oblong or globose, introrse. *Style* 3-fid. *Capsule* 3-coccous. *Seeds* globose, ecarunculate.—Leaves *serrate or divided, stipulate:* hairs *stinging;* racemes *androgynous, axillary;* ♀ flowers *inferior, subsolitary, long-pedicellate.*

88. **T. volubilis,** *L.* Suffrutescent, twining, hispidulous or glabrescent; leaves oblong-lanceolate, acuminate, usually cordate, serrate; racemes filiform, as long as the ♀ pedicel, or longer: ♂ bracts setaceous, as long as the single ♂ pedicel; *stamens* 2 (–3): anthers ovoid-oblong; ♀ calyx 6(–5)-partite: segments lanceolate, quite entire; style-branches revolute; capsule 3-globose, hispid.—*Sl. t.* 82. *f.* 1.—HAB. Jamaica!, all collectors, common in hedges and woods; S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Venezuela!, New Granada!, Brazil!].

SUBTRIBE 6. *HIPPOMANEÆ.—Inflorescence centripetal, spiciform: ♂ bracts usually several-flowered. Flowers apetalous or naked: calyx imbricative or none. Stamens central. Seeds either carunculate or included within a dissolving outer integument.*

29. MICROSTACHYS, *Juss.*

Flowers monœcious. *Calyx* 3-partite. *Stamens* 3, distinct: anthers globose, extrorse. *Styles* 3, simple. *Capsule* 3-coccous. *Seeds* oblong, carunculate.—Habit *of* Tragia; ♂ racemes *spiciform, lateral:* bracts *distichous, sub-3-flowered:* ♀ flowers *supra-axillary, subsolitary, shortly pedicellate* (or racemes *androgynous,* ♀ *at the base*).

The lateral inflorescence is apparently due to an adhesion of the peduncle to the axis.

89. **M. corniculata,** *Juss.* *Annual,* subpilose, glabrescent; leaves ovate, acuminate, or lanceolate, subcordate at the eglandular base, minutely serrulate: serratures inconspicuous; racemes filiform, nearly as long as the opposite petiole; cocci 4(–6)-spurred: spurs subulate, divergent, 2 superior, 2 inferior.—*Vahl, Eclog. t.* 19.—Tragia, *V.* Cnemidostachys Vahlii, *Spr.* C. glabrata, *Mart.* M. guianensis, *Kl.*—Leaves variable in breadth, glabrous above; caruncle scutelliform.—HAB. Trinidad!, *Lockh., Pd., Cr.,* in waste places; [Venezuela!, Guiana!, Brazil!].

30. SAPIUM, *Jacq.*

Flowers monœcious. *Calyx* ♂ bifid or 3–4-dentate; ♀ trifid or 3-dentate. *Stamens* 2 (–3), monadelphous at the base, exserted: anthers globose, extrorse. *Style* 3(–2)-fid: branches simple. *Capsule* 3-coccous. *Seeds* subglobose, ecarunculate: exterior integument persistent, rugulose.—Woody plants; leaves *smooth, usually glanduliferous:* stipules *caducous;* racemes *spiciform, terminal or lateral, glanduliferous, primordial* ♂, *succeeding ones androgynous,* ♀ *flowers at the base:* ♂ *bracts with a cluster of* 3 *or many flowers.*

90. **S. aucuparium,** *Jacq.* Arboreous; leaves lanceolate-oblong, oblong, or elliptical, glandular-denticulate or subentire: principal veins numerous: *petiole bearing* 2 (–4) *oblong or ovate glands at or below the top:* stipules triangular-roundish; racemes filiform, terminal; ♂ calyx bifid: filaments 2, diverging from the monadelphous base.—A high, very milky tree; leaves variable.

α. Leaves pointed, shortly tapering at both ends; terminal racemes subsolitary.—*Jacq. Amer. Pict. t.* 237; *Desc. Fl.* 3. *t.* 154.—Hippomane biglandulosa, *Aubl.*

β. Hippomane, Mey.! Leaves pointleted or blunt, rounded at both ends; terminal racemes usually ternate.—HAB. Trinidad!, *Cr.;* [Guadeloupe!, Venezuela!, Guiana!].

91. **S. laurifolium,** *Gr.* Arboreous; leaves leathery, oblong, rounded at both ends, pointleted with a blunt point, repand-entire or obsoletely crenulate, pellucid-dotted: principal veins numerous: *petiole bearing 2 minute subglobose glands below the top:* stipules semicordate; racemes filiform, terminal, 3–5-partite; ♂ calyx bifid: filaments 2, diverging from the monadelphous base.—*Rich. Cub. t.* 69.—S. Brownei, *Herb. Bks.* Stillingia laurifolia, *Rich.* Hippomane biglandulosa, *Sw.* (*exclus. syn. Sl.*).—A very milky tree, 20′–50′ high; leaves shining.—HAB. Jamaica!, *Macf., Al.;* [Cuba!, Venezuela!].

92. **S. cuneatum,** *Gr.* (*n. sp.*). Leaves obovate or oblong, rounded or bluntish at the top, cuneate at the base, bearing glands on the subentire margin, and at least 2, minute, sessile ones above the base of the limb, devoid of pellucid dots: principal veins distant: *petiole eglandular:* stipules cordate-roundish; racemes lateral, arcuate-filiform, simple, numerous; ♂ calyx bifid: filaments 2, diverging from the monadelphous base; style 2–3-fid.—Leaves usually smaller than in the preceding, 4″ long, about 2″ broad (sometimes twice as long), coetaneous, at length leathery: principal veins 2‴–4‴ distant, alternating with smaller ones: petiole 8‴ long; racemes 2″–3″ long: ♂ clusters somewhat distant.—HAB. Jamaica!, *Al., Macf., Pd., March.*

31. HIPPOMANE, *L.*

Flowers of *Sapium,* but stamens 2 (–4), monadelphous almost to the base of the distinct anthers. *Styles* 4–8. *Pericarp* drupaceous. *Seeds* ovoid: testa as in *Sapium.*—Habit *and* inflorescence *of* Sapium.

93. **H. Mancinella,** *L.* Arboreous; *leaves* ovate or elliptical, serrulate or crenate, serrate, shining, uniglandular above at the base, *as long as* or twice as long as *the petiole; racemes* terminal.—*Sl. t.* 195; *Jacq. Amer. Pict. t.* 238; *Tuss. Fl.* 3. *t.* 5; *Desc. Fl.* 3. *t.* 153. —A middle-sized, poisonous tree; drupe subglobose, $1\frac{1}{2}''$ diam., yellowish-green.—Hab. Jamaica!, *Pd.;* S. Vincent!, *Guild.;* Grenada; Trinidad, on the sandy seacoast; [Cuba to Venezuela, and Panama!].

32. HURA, *L.*

Flowers monœcious. *Calyx* cupuliform, irregularly toothed. *Column* central, bearing below its verticillate projections indefinite, sessile, extrorse anthers. *Style* simple, infundibuliform at the top: stigma many-lobed, with hanging, subulate branches. *Capsule* polycoccous. "*Seeds* compressed-round: testa as in *Sapium.*"—A milky, glabrous tree; leaves *biglandular above at the base;* spikes *oval or oblong, long-peduncled, terminal:* ♂ flowers *densely imbricated,* ♀ *at the base or in the superior axils.*

94. **H. crepitans,** *L.*—*Tuss. Fl.* 4. *t.* 5; *Desc. Fl.* 2. *t.* 124.—A high tree; leaves variable, about $2''$ diam., roundish, usually cordate, pointleted, serrate or subentire, often shorter than the petiole; anthers usually 1–3-seriate.—Hab. Jamaica!, *Pd., Macf., Al.;* S. Vincent!, *Guild.;* Trinidad; [Cuba to Brazil]. Sandbox.

33. OMPHALEA, *L.*

Flowers monœcious. *Calyx* 5–4-partite. *Column* surrounded by a disc, central, agariciform, bearing 3–2 sessile extrorse anthers on the margin of its pileus. *Style* simple, short: stigma shortly 3-lobed. *Pericarp* drupaceous, 3-coccous. *Seeds* subglobose: testa of *Sapium.*—Woody plants; leaves *quite entire:* stipules *deciduous;* panicle *terminal or axillary, racemose;* bracts *distant, large, spathulate-linear, from the axil of which arises a peduncled, dichotomous, androgynous* cyme, *with a central* ♀ flower.

95. **O. triandra,** *L.* Arboreous; *leaves* oblong, oval, or cordate, *glabrous,* biglandular above at the base; *anthers* 3.—*Br. Jam. t.* 22. *f.* 4: mala; *Tuss. Fl.* 4. *t.* 9; *Desc. Fl.* 2. *t.* 80.—O. nucifera, *Sw.*—A tree of various height; drupe yellow, globose, furrowed, $1\frac{1}{2}''$ diam.—Hab. Jamaica!, *M'Nab, Wils.,* common; [Guiana].

96. **O. diandra,** *L.* Shrubby, trailing, pubescent; *leaves* oblong, oval, cordate, *pubescent beneath,* biglandular above at the base; *anthers* 2.—*Aubl. t.* 328.—O. cordata, *Sw.* —I have seen only continental specimens, and doubt its being distinct from the preceding. —Hab. Jamaica, *Sw.,* on rocks; [Guiana!, equatorial Brazil!].

34. EXCŒCARIA, *L.*

Flowers naked, or usually with the calyx represented by a variable number of bracteoles. *Stamens* 2–4 (1–16), distinct: anthers globose, extrorse. *Styles* 3, often united below: branches simple. *Capsule* 3-coccous. *Seeds* caruncalate, smooth, globose or ovoid.—Woody plants; racemes *amentiform, usually androgynous, with the* ♀ *flowers inferior.*

Baillon has united this genus partly with *Sapium,* from which it is distinguished chiefly by the seeds, as also by the distinct stamens, if we adopt the hypothetical view that the organ, regarded here as a pedicel, be a column in *Sapium.* According to the views of former authors, there would be as many genera as there are West Indian species of *Excœcaria,* but I adopt Bentham's view of the matter, and reduce to *Excœcaria* my *Actinostemon caribæus. Gymnanthes hypoleuca,* Benth., is identical with my other Guadeloupe species (*E. farinosa*).

Sect. 1. Gymnanthes.—*Flowers monœcious:* ♂ *bracts 3-flowered;* ♀ *flowers long-pedicellate. Seeds globose: caruncle pileiform.*

97. **E. lucida,** *Sw.* Glabrous; leaves lanceolate or lanceolate-elliptical, remotely serrate or subentire; aments eglandular, sessile; ♂ *flowers* 3–2-androus, naked, *unibracteolate:* filaments as long as the anther; ♀ flower subsolitary, basilar or distinct, inferior, 3-bracteolate: its pedicel nearly as long as the ament.—*Juss. Euph. t.* 55: *analyt.*—Gymnanthes, *Sw.*—A shrub, said to be poisonous; leaves shining above, green beneath; seeds $1\frac{1}{2}'''$ diam., black: caruncle distinct, pale.—Hab. Jamaica!, *Macf., Pd., March,* along the seashore; Antigua!, *Nichols.;* [Cuba!, Guadeloupe!].

Sect. 2. ACTINOSTEMON.—*Flowers monœcious: ♂ bracts 2–5-flowered; ♀ flowers long-pedicellate, solitary in the axils. Seeds cubical, with rounded angles: caruncle obsolete.*

98. **E. caribæa,** *Griseb.* Glabrous; leaves lanceolate-oblong, pointed, minutely subcordate at the tapering, petioled base, quite entire, biglandular at the base beneath; ♂ aments axillary, enclosed within integuments, sessile, eglandular: *central flowers tetrandrous;* ♀ flowers in different axils: style 3-fid.—Actinostemon, *Griseb. Carib.*—A leafy shrub; leaves leathery; seeds 2‴ diam.—HAB. Antigua!, *Wullschl.;* [Guadeloupe!].

Sect. 3. HYPASPIDIA.—*Flowers diœcious: ♂ bracts one-flowered, raised to the top of the short pedicel: anthers opening obliquely by an oval pore; ♀ flowers in axillary racemes: bracts basilar. Seeds ovoid: caruncle minute.*

99. **E. tinifolia,** *Sw.* Glabrous; leaves ovate or oval, blunt, remotely and obsoletely serrulate, or subentire; aments eglandular, sessile; ♂ *flowers* 3-androus, naked, *bibracteolate:* filaments shorter than the globose anther; ♀ flowers shortly pedicellate, 3-bracteolate: styles reflexed.—Gymnanthes elliptica, *Sw.*—A shrub, 12′–14′ high; leaves shining, leathery, 3″–1″ long; seeds $1\frac{1}{2}$‴ long, brown.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, *March*, in the mountains; [Veracruz!].

Sect. 4. ADENASPIDIA.—*Flowers monœcious: ♂ bracts 3–5-flowered; ♀ flowers sessile. Seeds globose: caruncle very minute, papilliform.*

100. **E. glandulosa,** *Sw.* Glabrous; leaves elliptical, pointleted, subentire; *aments* shortly peduncled, *glandular* on the back of the incurved ♂ bracts; ♂ flowers 2(–3)-androus, naked, bracteolate at the base of the pedicel and obsoletely unibracteolate at its top: filaments shorter than the anthers; ♀ flowers 1–3, tribracteolate, inferior in the same ament or distinct: styles reflexed.—*Sl. t.* 158. *f.* 2.—A middle-sized tree; leaves 3″ long, polished; seeds $1\frac{1}{2}$‴ diam., blotched: caruncle like a pin's head—HAB. Jamaica!, *Sw.*, *Al.*, *March*, in woods, *e.g.* S. Ann's.

SUBTRIBE 7. *EUPHORBIEÆ.—Inflorescence androgynous, involucrate: flowers apetalous, or naked.*

35. DALECHAMPIA, *L.*

Involucre 2-phyllous, stipulate; involucels separating the flowers of both sexes: ♂ *flowers* umbellate, central: calyx 4–5-partite, valvate, polyandrous; ♀ *flowers* 3, lateral, subsessile: calyx 5–12-partite: style long, subentire. *Capsule* 3-coccous. *Seeds* subglobose, ecarunculate.—Shrubs, *usually climbing;* leaves *stipulate and usually stipellate;* flower-heads *peduncled, included within the involucre.*

101. **D. scandens,** *L.* Leaves deeply 3-fid, cordate at the base, pubescent beneath: lobes elliptical-oblong, pointleted, serrulate: stipules lanceolate, acuminate; *involucral leaves* green, 3-*fid*, 5-*nerved*, hairy; ♀ calyx 10-partite.—*Jacq. Amer. Pict. t.* 239.—A twining shrub.—HAB. Antigua!, *Nichols.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [Haiti; Panama; Venezuela!].

102. **D. pruriens,** *Gr.* (*n. sp.*). Leaves deeply 3-fid, cordate at the base, hispidulous-pubescent beneath: lobes ovate, pointleted, serrulate: stipules lanceolate-linear; *involucral leaves* large, roundish, *membranaceous*, tomentose, 3-*dentate* at the top, subentire on the margin, 7–9-*nerved;* ♀ calyx 10-partite: segments ciliate with spinules, and bearing, together with the capsule, yellow, stinging bristles.—Allied to *D. colorata*, L., and *D. peruviana*, Lam., but distinguished by the leaves minutely serrulate and the involucral leaves subentire.—A twining shrub: branchlets hoary-pubescent; involucral leaves at length $1\frac{1}{2}$″ diam.: nerves and transverse veins prominulous; spinules of the ♀ calyx 1‴ long, spreading-recurved to the exterior side of the segments: bristles $\frac{1}{2}$‴ long.—HAB. Trinidad!, *Cr.*

36. PEDILANTHUS, *Neck.*

Involucre bilabiate, including indefinite ♂, and one central ♀ flower: the exterior leaf shorter, gibbous, bearing 4 glands on the inner side at its base: ♂ *flowers* naked, reduced to a single articulated stamen, ♀ pedicellate, with an obsolete calyx. *Style* entire: stigmas

3, short. *Capsule* 3-coccous. *Seeds* carunculate.—Shrubs; leaves *fleshy, alternate;* flower-heads *cymose:* involucre *red.*

103. **P. tithymaloides,** *Poit.* Leaves ovate-roundish, elliptical, or spathulate-lanceolate, keeled on the midrib beneath; ovary glabrous, exserted; *capsule devoid of horns.*

α. Leaves ovate-roundish.—*Jacq. Amer. Pict. t.* 138.—Euphorbia, *Jacq.*

β. padifolius, Poit. Leaves elliptical, pointed usually at both ends.—*Bot. Reg. t.* 837; *Bot. Mag. t.* 2514.—P. carinatus, *Spr.* P. tithymaloides, *var.* anacampseroides, *Poit.* Euphorbia carinata, *Bot. Mag.*

γ. angustifolius, Poit. Leaves spathulate-lanceolate.—*Poit. in Ann. Mus.* 19. *t.* 19. *f.* 2.—HAB. Jamaica!, *Dist.* (γ), on rocks along the seacoast; S. Vincent!, *Guild.* (β), and other Caribbean islands, *Jacq.* (α); [Venezuela].

37. EUPHORBIA, *L.*

Involucre calyciform, shortly 5–4-fid, and usually glanduliferous between the lobes, including indefinite ♂ and one central ♀ flower. *Flowers* and *capsules* as in *Pedilanthus,* but *styles* 3, mostly bifid.—*Flower-heads* usually in umbelliform cymes, rarely polygamous by abortion.

§ 1. *Succulent, aphyllous shrubs.*

104. **E. alata,** *Hook.!* Unarmed, articulated, branched: *branches* opposite or whorled, oblong-linear, *complanate-2-winged;* umbels contracted, terminal and lateral, bibracteate, twice (or once) 3-rayed: universal ones sessile, partial shortly pedicellate; involucre few-flowered, with 5 petaloid appendages and fringed interior lobes.—*Hook. Ic. t.* 700.—Habit of *Viscum opuntioides:* woody below: internodes 2″–8″ long, 2‴ broad—HAB. Jamaica!, *Pd.,* in rocky woods, Manchester.

§ 2. *Shrubs; leaves opposite or whorled, long-petioled, equal at the base, quite entire: petiole articulated at the sheathing base: stipules glanduliform, inconspicuous.*

105. **E. nudiflora,** *Jacq.* Branches cylindrical, with distant, deciduous foliage; leaves opposite (or ternate), ovate, elliptical, or elliptical-lanceolate, bluntish, glabrous or subciliate; *cymes* terminal and axillary, *subsessile,* several times *dichotomous;* involucre with 5 petaloid, crenate appendages and fringed interior lobes; capsule glabrous, long-exserted, nodding; seeds ecarunculate, ovoid-oblong, irregularly wrinkled-tubercled.—*Jacq. Ic. Rar. t.* 479.—E. graminea, *Sw.* (*non Lin.*).—A dichotomous or trichotomous shrub, 10′–1′ high, leaves 2″–1″ long: petiole 6‴–4‴ long, usually as long as the cymes; seeds 1‴ long.—HAB. Jamaica!, *Al., March, Wils.,* common on limestone; S. Vincent!, *Guild.;* [Mexico!].

106. **E. cotinifolia,** *L.* Branches cylindrical, thickened at the nodes; leaves opposite or ternate, ovate or ovate-roundish, bluntish, subcordate at the base, glabrous, glaucous beneath, as long as or exceeded in length by the petiole; *cymes* terminal, *peduncled, trichotomous;* involucre with 5 petaloid, quite entire appendages, and cut interior lobes; capsule glabrous; seeds ecarunculate, ovoid, irregularly wrinkled.—*Hook. Exot. t.* 59.—A high shrub; leaves 2″–1″ long: petiole 3″–1″ long, with stipular glands at the node.—HAB. Barbadoes!, *Lane;* Trinidad!, *Lockh.;* [Venezuela!, New Granada!, Guiana!].

§ 3. *Shrubs; leaves opposite or whorled, shortly petioled, inserted on the inner side of a spreading stipular sheath.*

107. **E. vaginulata,** *Gr.* (*n. sp.*). *Branchlets densely ringed with aphyllous,* ciliolate, bilobed *sheaths;* leaves opposite or ternate, inserted into the uppermost or superior sheaths, small, fleshy, spathulate-linear, quite entire, glabrous, or with a few hairs on the midrib beneath, much longer than the puberulous petiole; peduncles simple, short, terminal; involucre with minute, rounded appendages; capsule glabrous, nodding: styles simple; seeds ecarunculate, globose, smooth, ash-colour, red.—A low, branched shrub: nodes annular, 2‴–4‴ distant from each other; branchlets 2‴ long, covered entirely with the rounded, spreading sheaths, or the uppermost internodes sometimes developed: leaves 2‴ long, ½‴ broad, veinless: petiole scarcely exserted from the sheath; peduncles almost wholly immersed in the uppermost sheath, involucral glands blackish, contiguous, a little exceeded by the cut lobes; pedicel of ♀ exserted; capsule scarcely 1‴ diam., contracted in the sutures.—HAB. Turk Islands!, *Hjalm.*

§ 4. *Shrubs or herbs; leaves opposite, shortly petioled, usually oblique at the base: stipules interpetiolar, united.*

† *Shrubs or perennial herbs.*

108. **E. articulata,** *Burm.* *Shrubby,* dichotomous, glabrous; *leaves oblong-linear, blunt,* mucronulate, or *oval* and oval-lanceolate, quite entire, glaucous beneath, *distant:* stipules 3-angular, deciduous; peduncles alar and axillary, simple, subsolitary, exceeding the petiole, nodding; involucre with 4 rounded glands and villous interior lobes; capsule glabrous; seeds . . .—*Plum. Ed. Burm. t.* 281. *f.* 2.—E. linearis, *Retz.*—An arborescent shrub, 10′–18′ high; larger leaves 1″ long; ♀ pedicel as long as the peduncle.—Hab. Antigua!, *Walls;* [S. Thomas, Guadeloupe!, on the seashore].

109. **E. myrtifolia,** *L.* *Shrubby,* glabrous or glabrate; *leaves oval* or oval-roundish, obsoletely *emarginate,* quite entire, or serrulate above, glaucous beneath: stipules 3-angular, deciduous; peduncles alar and axillary, simple, solitary, very short; involucre as long as the peduncle, few-flowered, with 4 rounded glands, and villous interior lobes; capsule hairy; seeds ecarunculate, ovoid, transversely wrinkled.—1′–2′ high: branches virgate, alternate; leaves 6‴–4‴ long, oblique at the base; ♀ flower shortly exserted.—Hab. Jamaica!, *Al.*, in the upper region of the Blue Mountains.

110. **E. buxifolia,** *Lam.* *Shrubby,* glabrous; *leaves ovate, pointed,* quite entire: stipules 3-angular, laciniate on the margin; peduncles alar and axillary, simple, crowded at the top of the branches, exceeded by the leaves; involucre with 5–4, rounded, glandular, petaloid appendages, and fimbriate interior lobes; capsule glabrous; seeds ecarunculate, subglobose, nearly smooth.—*Desc. Fl.* 6. *t.* 418.—E. glabrata, *V., Sw.:* the common form, with approximate, subcomplicate leaves.—1′ high: branches ascending, virgate; leaves 6‴–3‴ long, rounded or semicordate at the slightly oblique base.—Hab. Bahamas!, *Swains.;* Jamaica!, all collectors, on the rocky seashore; S. Vincent!, *Guild.;* [Bermudas!, Florida!, Cuba!, Guadeloupe!, Honduras!, Venezuela!].

111. **E. flexuosa,** *Kth.* *Suffrutescent,* glabrous; *leaves oval-oblong,* semicordate at the base, *rounded at the mucronulate top,* obsoletely crenulate above, or quite entire: stipules 3-angular, laciniate on the margin; peduncles alar and axillary, simple, solitary; involucre with 5–4 glands and fimbriate interior lobes; capsule glabrous; seeds ecarunculate, subglobose, obsoletely wrinkled.—Branches fragile, ascending, flexuous, dichotomous above, ½′ high; leaves 6‴–4‴ long, distant: petiole as long as the basilar auricula.—Hab. Trinidad!, *Pd.*, on the seashore; [Venezuela].

112. **E. serpens,** *Kth.* Suffrutescent or herbaceous, *prostrate,* glabrous; *leaves oval-roundish,* oblique at the base, rounded at the top, quite entire, or crenulate: stipules 3-angular, usually laciniate on the margin; peduncles alar and axillary, simple, solitary ("or ternate"); involucre with 5–4 glands, which have usually a narrow petaloid margin; capsule glabrous; *seeds* ecarunculate, subtetragonal, *smooth.*—E. centunculoides, *Kth.*—Allied to E. herniarioides, *Nutt.*, but perennial.—Palmar, cæspitose; leaves 2½‴–½‴ long.—Hab. Bahamas!, *Swains.;* Antigua; [Cuba!, Venezuela].

E. dioica, Kth. (E. centunculoides, *Pœpp. Cub.!*), is a similar perennial species, but distinguished by larger, symmetrical, petaloid appendages, and transversely wrinkled seeds.

†† *Annual weeds.*

113. **E. maculata,** *L.* (var. *thymifolia,* L.). Annual, cæspitose, prostrate, pubescent; leaves oblong, blunt, oblique at the base, serrulate above; involucres clustered: peduncles as long as the petiole; petaloid appendages minute; capsule hairy; *seeds* ecarunculate, *sharply tetragonal,* transversely rugulose-keeled: *keels about four, obtuse,* and angles entire.—*Jacq. Vind. t.* 186.—E. maculata, *δ, Pl. Carib.* E. Burmanniana, *Gay.*—Leaves 2‴–4‴ long. The original *E. maculata,* L. (*α, γ,* Pl. Carib., *E. depressa,* Torr.), or the United States form, has longer (4‴–6‴) leaves.—Hab. Jamaica!, *Macf.*, to Trinidad!, *Lane;* [all tropical countries; *α* in the United States!].

114. **E. prostrata,** *Ait.* Annual, cæspitose, glabrate or pubescent; leaves obovate or oval-oblong, rounded at the top, oblique at the base, subserrulate above; involucres clustered: peduncles as long as the petiole; petaloid appendages minute; capsule slightly hairy; *seeds* ecarunculate, pale, *sharply tetragonal,* transversely keeled: *keels about six, argute-*

filiform: angles subcrenate.—E. maculata, *β*, *Pl. Carib.* E. callitrichoides, *Kth.*, *et* tenella, *Kth. sec. Engelm.*—HAB. Jamaica!, *Dist.*, *March*, to Trinidad!, *Lockh.*, *Cr.;* [Louisiana! to Panama!, Cuba!, Canary Islands!, Nubia!].

115. **E. pilulifera,** *L.* Annual, diffuse or erect, pubescent; *leaves* semiovate or ovate-lanceolate, *pointed*, oblique at the base, serrate; cymes axillary and terminal, contracted: peduncles exceeding the petiole; involucre with minute, rounded glands; capsule hairy; *seeds* ecarunculate, pale, *tetragonal*, transversely rugulose: *wrinkles about six, obtuse.—Desc. Fl.* 3. *t.* 227.—E. hirta, *L.* E. obliterata, *Jacq.*, *Sw.*—Leaves 6‴–12‴ long.—HAB. Jamaica!, *Macf.*, *Dist.*, *March;* Antigua!, Dominica!, S. Vincent!, *Guild.;* Trinidad!, *Schach*, *Cr.*, [Cuba! and Mexico! to Buenos Ayres!, and all other tropical countries].

116. **E. hypericifolia,** *L.* Annual, erect or ascending; leaves oblong or lanceolate, oblique at the base, serrulate or repand; cymes terminal, and the axillary ones exserted; involucre with the rounded glandular appendages often petaloid; capsule obtuse-angled, with 3 filiform keels; *seeds* ecarunculate, *blackish, obtusely tetragonal*, transversely wrinkled: *wrinkles about three to four, obsolete.—Sl. t.* 126.—Stem 1′–3′ high, at length suffrutescent; leaves 1″–2″ long; cymes loose or contracted; petaloid margin of the appendages broad or obsolete.

α. Glabrous; leaves oblong or oblong-linear, blunt; capsule glabrous.

β. hyssopifolia, L. Glabrous; leaves lanceolate, tapering towards the pointed or bluntish top; capsule smooth.

γ. lasiocarpa, Kl. Stems villous above; leaves oblong, blunt; cymes contracted; capsule villous.—E. Berteriana, *Balb.*, *Gr. Pl. Carib.*—HAB. Jamaica!, all collectors, common (*α*, *β*, *γ*) to Trinidad!, *Lockh.*, *Cr.* (*α* and *β*); [United States! to Chili!, Australia!, Verona!, Sicily!, Madeira!].

§ 4. *Shrubs or herbs; leaves exstipulate, inferior alternate; involucres in a terminal cluster.*

117. **E. punicea,** *Ait.* *Shrubby*, glabrous; leaves lanceolate, quite entire, coriaceous; bracts crimson, interior 2–3, ovate-roundish, much exceeding the terminal, 5-rayed cluster; *involucre with* 5–6, rounded, *flat glands;* seeds . . .—*Sm. Ic. Pict. t.* 3; *Jacq. Ic. Rar. t.* 484; *Desc. Fl.* 3. *t.* 194.—15′–20′ high; leaves 6″–1″ long; interior bracts 12‴–8‴ long.—HAB. Bahamas!, *Swains.;* Jamaica!, *Wils.*, in rocky mountains; [Cuba!].

118. **E. heterophylla,** *L.* *Annual* (or biennial), glabrous or puberulous; leaves difform, ovate, fiddle-shaped, and linear; involucres pedicellate, with 5 incised lobes: *glands cyathiform, sessile,* 5–1 (or abortive); seeds subglobose, tubercled: caruncle very minute.—An erect or ascending, very polymorphous herb; leaves quite entire, or serrate-sinuate, upper ones and bracts usually with a red blotch.

α. Leaves either all linear, entire, or most of them ovate, serrate, with the bracts linear.—*Plum. Ed. Burm. t.* 251. *f.* 3: the latter form.

β. cyathophora, Jacq. Leaves fiddle-shaped, with two large teeth, or ovate, entire; bracts lanceolate.—*Jacq. Ic. Rar. t.* 480: a higher, suffrutescent form.

γ. prunifolia, Jacq. Leaves ovate or elliptical, serrate, long-petioled, uppermost opposite; bracts ovate-lanceolate.—*Jacq. Schœnbr. t.* 277.—HAB. Bahamas!, *Swains.;* Jamaica!, *Wils.*, *March* (*α*, *γ*); Trinidad!, *Cr.* (*γ*); [Illinois! to Peru!].

§ 5. *Leaves exstipulate, alternate below the umbellate inflorescence.*

119*. **E. Peplus,** *L.* Annual, glabrous; leaves obovate, petioled, quite entire; umbel 3-rayed; glands of the involucre bicornute; capsule glabrous: cocci 2-keeled; *seeds carunculate*, subhexagonal: 4 *dorsal facets 4-pitted*, 2 anterior channelled with a longitudinal groove.—HAB. Naturalized in Jamaica!, *March;* [introduced from Europe].

XX. CARYOPHYLLEÆ.

[Portulaceæ. Ficoideæ.]

Ovary unilocular, with a central placenta, or syncarpous: styles mostly several. *Embryo* excentrical: perisperm central, mealy.—Herbs, *with tumid nodes;* leaves *quite entire, usually opposite.*

Mollugo bellidifolia is used, like *Saponaria*, as a resolvent, and *Trianthema* is mentioned among the bitter drugs. Purslane (*Portulaca* and *Sesuvium*) is a well-known pot-herb.

TRIBE I. *SILENEÆ.—Calyx tubular. Petals clawed, hypogynous.—Leaves exstipulate.*

1. SILENE, *L.*

Calyx 5-toothed. *Petals* 5. *Stamens* 10. *Styles* 3. *Capsule* trilocular at the base, dehiscent at the summit by 6 teeth.

1*. **S. gallica,** *L.* Annual, hairy; leaves oblong-spathulate or lanceolate; cyme racemiform: pedicels unilateral, much shorter than the calyx; calyx 10-striate, cylindrical, villous, at length ovoid-oblong, not umbilicate at the base; petals small: lamina subentire; capsule subsessile: seeds flat on the back, granulose.—*Vaill. Paris. t.* 11. *f.* 12.—S. quinquevulnera, *L.*: petals red, with the border pale.—HAB. Naturalized in the mountains of Jamaica!, along roadsides, *Macf.*; [introduced from southern Europe, naturalized in most temperate countries, and in some tropical hills].

TRIBE II. *ALSINEÆ.—Sepals distinct, or united at the base. Petals sessile, or wanting. Stamens usually hypogynous.*—Leaves exstipulate.

2. ARENARIA, *L.*

Sepals 5. *Petals* 5, entire or abortive. *Stamens* 10. *Styles* usually 3. *Capsule-valves* twice as many as there are styles.

2. **A. diffusa,** *Ell.* Annual, decumbent, pubescent; leaves oblong-lanceolate, mucronate, attenuated at the base; peduncles axillary, filiform; sepals ovate-lanceolate, pointed, equalling the capsule; petals usually abortive; *seeds shining, very smooth.*—A. nemorosa, *Kth.* Stellaria elongata, *Nutt.* Stel. lanuginosa, *T. et Gr.!* Spergulastrum, *Mich.*—Stems long, branched; leaves dotted; peduncles solitary, exceeding the leaves; petals, if existing, nearly as long as the calyx, white.—HAB. Jamaica!, *Macf.*, *Bancr.*, *Wils.*, at 4000′, common in the south-eastern mountains; [Carolina! to Florida! and New Mexico; Andes, from Mexico! to Peru! and Venezuela!].

3. STELLARIA, *L.*

Calyx 5-partite. *Petals* 5, bifid. *Stamens* 10 (–3). *Styles* usually 3. *Capsule-valves* twice as many as there are styles.

3*. **S. media,** *Vill.* Annual; *stem* decumbent, *with an alternate, pubescent line;* leaves ovate or subcordate, glabrous; calyx including the corolla, exceeded by the capsule; stamens usually 5–3.—HAB. Naturalized in the mountains of Jamaica, *Macf.*; [introduced from Europe].

4. CERASTIUM, *L.*

Calyx 5(4)-partite. *Petals* 5 (–4), bifid. *Stamens* 10 (–4). *Styles* usually 5. *Capsule* cylindrical, dehiscent at the summit by twice as many teeth as there are styles.

4*. **C. viscosum,** *L.*, *Fr.* Annual, pubescent; leaves oval or oblong; *cyme contracted:* pedicels usually shorter than the calyx; *bracts herbaceous;* calyx-divisions hairy to the top, equalling the corolla; capsule nearly twice as long as the calyx: teeth straight, revolute on the margin.—C. glomeratum, *Thuill.* C. spathulatum, *Pers.*, *Macf.*—The Jamaica form resembles *C. vulgatum*, L., by the shape of the superior leaves, but the specific characters are those of *C. viscosum*, to which *C. spathulatum*, Pers., has correctly been reduced in Grenier's monograph.—HAB. Naturalized in the mountains of Jamaica!, *March*; [introduced from Europe].

TRIBE III. *PARONYCHIEÆ.—Sepals distinct, or united below. Petals perigynous, or wanting.*—Leaves furnished with scarious stipules.

5. DRYMARIA, *W.* corr.

Sepals 5. *Petals* 5, bifid. *Stamens* 5–2, opposite to the calyx. *Styles* 3. *Capsule* trivalved.—Leaves *opposite.*

5. **D. cordata**, *W.* Annual, glabrous; leaves orbiculate, subcordate at the base; pedicels filiform, arranged in lateral cymes; sepals ovate-lanceolate, acuminate; petals deeply bifid, included; stamens usually 3; capsule equalling the calyx: seeds 8–2, granulose.—*Lam. Ill. t.* 51: *Holost. f.* 2.—Holosteum, *L.*—Intermediate forms with *D. diandra,* Macf. (Holosteum, *Sw.!*), are of common occurrence; the original Swartzian type however may be regarded as a special variety.

a. Leaves 4‴–6‴ diam.; sepals glabrous (1½‴ long).

β. diandra. Leaves minute (2‴ diam.); sepals puberulous (half the size of *a*); stamens 2; seeds less numerous.—Hab. Jamaica!, *Macf., March,* to Trinidad!, *Sieb., Lockh., Cr.,* common; [Cuba! and Mexico! to Brazil! and Peru!; East Indies!].

6. CYPSELEA, *Turp.*

Calyx 5-partite. *Petals* 0. *Stamens* 3–1, alternate with the calyx-segments. *Styles* 2. *Capsule* circumscissile.—Leaves *opposite, and partly alternate, dotted.*

Asa Gray having shown by the position of the stamens in *Mollugo verticillata,* where the third one is opposite a sepal, that the character of the *Portulaceæ,* as proposed by Fenzl, cannot be relied upon (*Gen. Bor. Amer.* 2. *p.* 10), I consider *Cypselea* better placed among the *Paronychieæ,* the scarious stipules of which it possesses, its habit agreeing much more with *Herniaria* than with any true *Portulacea.*

6. **C. humifusa,** *Turp.*—*Turp. in Ann. Mus.* 7. *t.* 12. *f.* 5.—A small, annual, decumbent, branched, glabrous herb; leaves oval, petioled, 1½‴–2‴ long: stipules laciniate; flowers small, greenish, axillary among the leaves of reduced branches.—Hab. Caribbean Islands, in dry swamps; [Haiti to Guadeloupe!].

Tribe IV. *MOLLUGINEÆ.—Sepals united below. Petals usually wanting. Capsule plurilocular.*—Leaves rosulate: stipules fugacious or obsolete.

7. MOLLUGO, *L.*

Calyx 5-partite, coloured inside. *Petals* 0. *Stamens* 5–3 (–10), hypogynous. *Styles* 3. *Capsule* trilocular, loculicidal, trivalved, many-seeded.

7. **M. verticillata**, *L.* Annual, glabrous, branched; *leaves* spathulate or oblanceolate-linear, *rosular at each node;* pedicels 1-flowered, umbellate; stamens 3; seeds smooth, 3–5-costate.—*Gray, Gen. Bor. Amer. t.* 101.—Hab. Jamaica!, in barren situations; [United States! to Brazil!, and Galapagos Islands!].

8. **M. nudicaulis,** *Lam.* Annual, glabrous, leafless above the base; *leaves* spathulate-oblong, *rosular at the lowest node;* flowers arranged in corymbiform panicles: pedicels filiform; stamens 5; seeds minutely granulose.—*Sl. t.* 129. *f.* 2; *Desc. Fl.* 5. *t.* 317.—M. bellidifolia, *Ser.* Pharnaceum spathulatum, *Sw.*—Hab. Jamaica, in dry situations *Sw.;* S. Lucia!; [Cuba! to Guiana!, Nubia!, East Indies!].

Tribe V. *PORTULACEÆ.—Sepals 2, distinct, or combined at the base.*—Leaves somewhat fleshy, devoid of scarious stipules.

8. TALINUM, *Ad.*

Sepals 2, distinct. *Petals* 5, hypogynous, delicate. *Stamens* 10–30, hypogynous. *Style* trifid. *Capsule* unilocular, trivalved, many-seeded.

9. **T. triangulare,** *W.* Suffruticose; leaves alternate, obovate-lanceolate, tapering towards the subsessile base; flowers red (or white), arranged in terminal, *corymbiferous cymes: pedicels triquetrous;* stigmas divergent.—*Jacq. Amer. Pict. t.* 135: the flowers yellow by some mistake. *Jacq. Obs.* 1. *t.* 23. *Jacq. Vindob.* 3. *t.* 52: a branched form. —Portulaca, *Jacq.* P. crassicaulis, *Jacq.* Tal. crassifolium, *W.* T. fruticosum, *W.*—A succulent half-shrub; stem about 2′ high, either simple and terminated with a few-flowered cyme (the original *T. triangulare*), or branched and higher (*T. crassifolium*): the leaves usually broader in the branched form, often emarginate and mucronate; sepals somewhat persistent, ovate or ovate-lanceolate, half the length of the corolla; petals large, rounded (6‴ diam.); stamens about 30; seeds minutely granulose.—Hab. Jamaica!, *Dist.,* on dry, sandy seashores; [Guadeloupe!, Brazil!, Peru!].

10. **T. patens,** *W.* Suffruticose, erect; leaves mostly opposite, oval, abruptly tapering towards the petioliform base; *panicle terminal,* elongated, leafless, *bearing dichotomous cymes: pedicels filiform;* flowers carmine; stigmas divergent.—*Jacq. Amer. Pict. t.* 136.—Portulaca, *Jacq.* P. paniculata, *Jacq.* Tal. fruticosum, *Macf.* (*non W.*).—Stem almost simple, 1′–2′ high, leafy to the middle, where the panicle begins; sepals deciduous, roundish, apiculate; petals small, obovate (3‴ long); stamens about 15–20; seeds very minutely granulose.—HAB. Jamaica!, *Dist., March,* on seaside rocks; [Cuba! and Mexico! to Buenos Ayres!, along the coast].

9. PORTULACA, *T.*

Calyx 2-partite: tube adnate; limb deciduous. *Petals* 4–6, hemiepigynous, delicate. *Stamens* 8–20, hemiepigynous. *Style* 3–8-partite. *Capsule* unilocular, circumscissile, many-seeded.—Uppermost leaves *usually rosulate around the terminal flowers.*

11. **P. oleracea,** *L.* Annual; *leaves spathulate,* rounded at the top, usually opposite: axils glabrous; flowers sessile, clustered or solitary; calyx-divisions keeled; *petals yellow,* emarginate; stamens 12–7; style 5-partite; seeds minutely granulose.—*Gray, Gen. Bor. Amer.* 1. *t.* 99.—The common form grows together in Jamaica with:—

β. *parviflora,* Haw. Leaves minute (2‴–4‴ long): axils often shortly pilose.—This form, however, is not peculiar to the West Indies. I have observed the same in several localities in southern Europe, and I possess it also from Central America.

HAB. Jamaica (*Macf.*); Barbadoes (*Mayc.*); [all tropical continents, and both temperate zones of the globe].

12. **P. pilosa,** *L.* Annual, suffrutescent; branches undivided; *leaves subcylindrical,* acuminate, alternate: *axils woolly;* flower-clusters encircled by wool; calyx-divisions linear-oblong, not keeled; *petals purple,* emarginate; stamens indefinite; style 5–6-partite; seeds minutely granulose.—*Bot. Reg. t.* 792.—HAB. Jamaica, (*Macf.*); S. Vincent!, *Guild.,* in sandy, waste situations; [Texas! and New Mexico! to Peru! and Brazil!].

13. **P. halimoides,** *L.* Annual, suffrutescent, diffuse; *branches* numerous, *fastigiate; leaves short, subcylindrical,* acuminate, alternate: axils hairy; flower-clusters encircled by a dense tuft of wool, and involucred; calyx-divisions ovate-lanceolate, not keeled; *petals yellow,* emarginate; stamens about 20; style 3–5-partite; seeds granulose.—*Sl. t.* 129. *f.* 3.—This approaches the preceding, but is easily distinguished by its peculiar ramification, and by the shorter leaves (2‴–3‴ long).—HAB. Jamaica, (*Macf.*); [Désirade!, Guadeloupe!].

TRIBE VI. *FICOIDEÆ.—Ovary syncarpous (or reduced to a single carpel by abortion). Stamens perigynous or epigynous.*—Leaves as in *Portulaceæ.*

10. SESUVIUM, *L.*

Calyx 5-partite, coloured inside, persistent. *Petals* 0. *Stamens* indefinite (–5), perigynous. *Styles* 3–5 (–6). *Capsule* 3–5-locular, circumscissile, many-seeded.—Leaves *opposite, succulent;* flowers *axillary and terminal.*

14. **S. portulacastrum,** *L.* Perennial; leaves lanceolate or lanceolate-oblong, flat, tapering towards the sheathing base; flowers pedicellate; styles 3–4.—*Jacq. Amer. Pict. t.* 142.—My diagnosis is taken from the Caribbean plant, which agrees with Jacquin's figure: in it the calyx is white inside, while, according to Sloane and Macfadyen, in the Jamaica plant the flowers are purple. There are three species in Richard's 'Flora Cubensis,' distinguished from each other chiefly by the shape of the leaves, the flowers being sessile or pedicellate, and the number of styles: Wight and Arnott, however, reduce all supposed species of the genus to the variable *S. portulacastrum* of Linnæus.—HAB. Jamaica (*Macf.*), and Caribbean Islands!, common on the sandy seashore; [New Mexico! and Florida! to Patagonia!; all tropical continents].

11. TRIANTHEMA, *L.*

Calyx 5-partite, coloured inside: divisions mucronate below the top. *Petals* 0. *Stamens* 10–5 (–20), perigynous. *Styles* 2–1. *Capsule* bilocular, with a spurious, placentary dissepiment, or unilocular (if monocarpellary), circumscissile near the base and below the upper seeds: the persistent base membranaceous; the lid hardened and closed incompletely at

its base by a spurious transverse dissepiment. *Placentas* parietal: seeds several.—Leaves *opposite, with the petiole enlarged into a sheath: the pair often unequal;* flowers *axillary, usually clustered.*

The affinity of this genus with *Sesuvium* is obvious, though the structure of the ovary, as understood by Wight and Arnott (*Prodr.* 1. *p.* 354), differs widely in its placentation, which is similar in the bicarpellary species to that of *Cruciferæ;* these views, which had not been generally adopted by subsequent authors, have since been confirmed by Payer's beautiful analysis of *T. monogynum* (*Ann. Sc. Nat.* iii. 18. *t.* 12), where the single placenta is shown to be originally parietal, and the longitudinal dissepiment does not exist.

15. **T. monogynum,** *L.* Perennial, glabrous; leaves roundish-obovate: the pair of unequal size; *flowers subsolitary,* sessile, half-concealed within the broad sheath: lid of the capsule prominent; stamens 6–10, 5 exterior alternate with the calyx; *ovary monocarpellary,* with a single style; capsule 6–8-seeded: lid concave at the top, with some bluntish teeth on the margin, 1(–2)-seeded, nearly closed at the base; *seeds covered with lamellar lines.*—*Desc. Fl.* 1. *t.* 51.—Stem 2′–3′ long, decumbent, branched; calyx purple inside.—Hab. Jamaica (*Sl.*); Trinidad!, *Cr.*; [New Mexico! and Cuba to New Granada! and Venezuela!, Galapagos Islands!].

XXI. PHYTOLACCEÆ.

Carpels campylotropous, either connate at the base, or solitary: styles distinct, usually introrse, or none; ovule mostly solitary. *Embryo* excentrical: perisperm central, mealy, or wanting.—Leaves *alternate, entire.*

An acrid, drastic principle is general in this Order; *Phytolacca* and *Petiveria* therefore are Colonial drugs. The berries of *Phytolacca octandra* are used for washing, like soap.

1. SURIANA, *L.*

Calyx 5-partite. *Petals* 5, nearly perigynous. *Stamens* 10, of which five are usually abortive. *Carpels* 5, distinct above the styliferous base, at length nucamentaceous: ovules 2, collateral, erect. *Embryo* incurved, exalbuminous.—A pubescent shrub; leaves *exstipulate, crowded;* racemes *few-flowered, terminal.*

This genus has been placed in different Orders, the structure of the pistil pointing either to *Rutaceæ* or to *Phytolacceæ;* but though the central albumen is wanting (as in *Seguiera*), I believe it to belong to the latter group, in which, together with *Stegnosperma,* it would exhibit the highest-developed flower.

1. **S. maritima,** *L.*—*Sl. t.* 162. *f.* 4; *Lam Ill. t.* 389.—A shrub, 3′–6′ high; leaves spathulate-lanceolate, tapering towards the sessile base, thickish, covered with a short down, 1″ long; petals yellow, equalling the calyx.—Hab. Jamaica!, *M'Nab, Al., March;* Turk Islands!, *Hjalmars.;* Bahamas! and Caribbean Islands!, on the seashore; [tropical coasts of the globe, *e.g.* Pacific Islands!, Northern Australia!, Mauritius!].

2. PHYTOLACCA, *L.*

Calyx 5-partite. *Petals* 0. *Stamens* indefinite –5, nearly perigynous. *Carpels* 12–5, connate, at length baccate. *Embryo* annular, encircling the perisperm.—Herbs; leaves *exstipulate;* racemes *terminal and lateral.*

2. **P. octandra,** *L.* Stem sulcate; *racemes spiciform,* erect: pedicels shorter than the flower; stamens 8; carpids 8–10: back convex, prominent.—*Desc. Fl.* 5. *t.* 312: with 10 stamens.—P. decandra, *Desc.* (*non L.*).—An erect, perennial herb; leaves elliptical or elliptical-lanceolate, pointed; calyx yellowish-white; berry nearly black.—Hab. Jamaica!, *Pd., March,* common in moist, fertile places, and Caribbean Islands; [Mexico! to Peru! and Montevideo!].

3. **P. icosandra,** *L.* Stem striate; racemes exceeding the leaves, slender, drooping at the top: *pedicels much longer than the flower;* stamens 20–10; carpids 20–10: back convex, slightly prominent.—*Bot. Mag. t.* 2633.—Suffrutescent; leaves ovate or ovate-lanceolate, shortly acuminate; calyx reddish-white; berry black.—Hab. Jamaica!, *Dist.;* Bahamas!, *Swains.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [Mexico! to Peru! and Brazil!].

3. MICROTEA, *Sw.*

Calyx 5-partite. *Petals* 0. *Stamens* 5 (–8), nearly hypogynous, alternating with the calyx. *Ovary* unilocular: ovule single, basilar; styles 2 (–5). *Achenium* scrobiculate, muricate. *Embryo* annular, encircling the perisperm.—Annual herbs; leaves *exstipulate; racemes or spikes lateral; flowers small, tribracteate.*

4. **M. debilis,** *Sw.* Flowers racemose: pedicels as long as the flower; inferior bract subulate; calyx-segments ovate, exceeded twice or more by the achenium.—*Lam. Ill. t.* 182; *Sw. Fl. t.* 10: *analyt.*—A delicate, diffuse herb, 1′–1½′ high; leaves ovate, tapering towards the petiole; calyx ⅓‴–¼‴ long, greenish-white.—Hab. S. Kitts, Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Lockh., Cr.;* [Panama! to Peru!, equatorial Brazil! and Guiana!].

4. RIVINA, *L.*

Calyx 4-partite. *Petals* 0. *Stamens* 4–12, nearly hypogynous. *Carpel* solitary: ovule single, basilar; style short, oblique, or none. *Achenium* somewhat baccate, or dry. *Embryo* annular, encircling the perisperm.—Shrubs; leaves *stipulate;* racemes *terminal and lateral.*

Sect. 1. Piercea.—*Stamens 4, alternate with the calyx: anthers ovate, introrse. Style with a capitate stigma.*—Pedicels with a deciduous bract at the base.

5. **R. lævis,** *L.* Erect; leaves ovate, pointed; *calyx-divisions* oblong or obovate, blunt, *appressed to the fruit.*—*Bot. Mag. t.* 2333.—A shrub, 6′–8′ high, with herbaceous, delicate branches; flowers small, reddish-white; berry globose, red, at length dry.—Linnæus distinguishes two species, which are mere varieties:

α. Glabrous.

β. pubescens. Branches and leaves pubescent.—R. humilis, *L.* R. purpurascens, *Schrad.*

Hab. Jamaica!, *Dist., Alex., March* (*α*); Caribbean Islands!; Trinidad!, *Schach, Cr.* (*β*); [Florida!, Texas!, Cuba! to Brazil!, Mexico! to Ecuador!].

Sect. 2. Villamilla.—*Stamens 8–12: stamens sagittate, extrorse. Stigma sessile, penicillate.*—Pedicels with a bract above the base.

6. **R. octandra,** *L.* Subscandent; leaves elliptical or elliptical-lanceolate, pointleted, glabrous; *calyx-divisions* ovate, rounded, *at length reflexed:* veins reticulated.—*Br. Jam. t.* 23. *f.* 2.—Trichostigma rivinoides, *Rich. Cub.*—A trailing shrub, 15′–20′ high; racemes lax, usually exceeding the leaves; flowers larger than in the preceding, whitish; berry purplish-black.—Hab. Jamaica!, *Pd., Alex., March;* S. Vincent!, *Guild.;* [Cuba! to Venezuela!, New Granada!, Peru!].

5. PETIVERIA, *L.*

Calyx 4-partite. *Petals* 0. *Stamens* 4–6–8, nearly perigynous: anthers sagittate. *Carpel* solitary: ovule single, basilar; stigma sessile, penicillate, lateral. *Achenium* terminated with 2–4 bristles. *Embryo* straight: albumen obsolete, lateral.—Suffrutescent herbs; leaves *stipulate;* spikes *terminal, interrupted, elongated;* flowers *tribracteate.*

7. **P. alliacea,** *L.* Leaves elliptical or oblong, pointed; spikes slender; *stamens* 6–8; fruit with 2 bristles.—*Jacq. Amer. Pict. t.* 104; *Desc. Fl.* 5. *t.* 374.—Stem 2′–3′ high; leaves glabrous; spikes often 8″–12″ long: axis puberulous; calyx whitish, 2‴ long: divisions linear, blunt. The whole plant has an alliaceous smell.—Hab. Jamaica!, *Alex.;* S. Kitts!, *Els.;* S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Southern United States, Cuba!, and Mexico! to Rio Grande do Sul!].

XXII. CHENOPODEÆ.

[Basellaceæ. Batideæ.]

Flowers apetalous. *Stamens* nearly perigynous, opposite to the herbaceous calyx. *Ovary* mostly unilocular: ovule single, basilar; styles usually 2 (–3–5). *Embryo* excentrical: perisperm central, mealy, rarely wanting.—Leaves *simple, exstipulate.*

The sap contains a certain quantity of alkaline salts, and a saline soil therefore is often preferred by the plants of this Order. Soda may be prepared from several European and Asiatic species, and in the West Indies a similar use is made of *Batis*, which seems to be an important argument for the affinity of this anomalous genus. The resolvent principle of some *Chenopodeæ* exists in *Basella*, and the volatile oil contained in the West Indian species of *Chenopodium* has anthelmintic properties (worm-seed oil).

1. CHENOPODIUM, *L.*

Calyx 5(–3)-partite, ebracteolate, persistent: segments usually keeled. *Pericarp* utricular: seed usually lateral, with a crustaceous testa; embryo annular.—Weedy herbs; flower-clusters *usually in terminal and axillary spikes.*

Sect. 1. Ambrina.—*Embryo incompletely annular.*

1. **C. ambrosioides,** *L.* *Annual*, branched; leaves glandular, lanceolate-oblong or spathulate, sinuate-toothed, upper ones entire; *spikes* paniculate, *leafy;* calyx appressed to the fruit, not keeled; seed rounded, smooth, shining.—*Desc. Fl.* 1. *t.* 57.—A slight variety is *C. spathulatum*, Sieb. (*Mart.* 92), with the leaves smaller, all spathulate. The seed is sometimes vertical in both forms.—Hab. Jamaica!, *Macf.*, *Bancr.*, *March;* Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [California! to Montevideo! and Chili!, naturalized in all the warmer parts of the globe].

2. **C. anthelminticum,** *L.* *Perennial;* leaves glandular beneath, lanceolate-oblong or elliptical-oblong, inferior sinuate; *spikes* paniculate, *leafless;* calyx appressed to the fruit, not keeled; seeds rounded, smooth, shining.—*Desc. Fl.* 1. *t.* 58: the names in this and the preceding plate are transposed.—Very similar to the preceding; styles often 3.—Hab. Caribbean Islands!; [United States! to South America!].

Sect. 2. Chenopodiastrum.—*Embryo completely annular.*—Leaves eglandular, often mealy.

3*. **C. murale,** *L.* Annual; *leaves* deltoid-ovate, *sharply unequally toothed;* spikes axillary and terminal, spreading; *calyx scarcely keeled*, not completely enclosing the fruit; *seed sharply edged, opaque.*—Hab. Naturalized in Antigua!, *Wullschl.;* [a European weed, introduced in most parts of the globe].—*C. album*, L., is also a naturalized plant of the West Indies.

2. ACNIDA, *L.*

Flowers diœcious, ebracteolate. *Calyx* membranaceous, ♂ 5-partite, ♀ 3-partite: styles 3–5. *Pericarp* utricular: seed basilar, with a crustaceous testa; embryo annular.—*Tall, glabrous, annual* herbs; flower-clusters *in terminal and axillary spikes;* lateral flowers *abortive.*

4. **A. cannabina,** *L.* Leaves lanceolate, acuminate, long-petioled; *pericarp acute-angled, glabrous.*—*Gærtn. Fruct. t.* 116. *f.* 3: *analyt.*—A. cuspidata, *Berter.*—Stem 6′–10′ high; middle leaves usually 6″–8″ long, penninerved; panicles lax, drooping at the top, formed of interrupted spikes.—Hab. Jamaica (*Berter*); Trinidad!, *Cr.*, in mangrove swamps; [United States].

3. ANREDERA, *Juss.*

Calyx 5-partite, enclosed within two winged persistent bracts. *Style* 3-partite. *Pericarp* utricular, leathery, compressed: seed basilar, with a membranaceous testa; embryo annular. —A trailing, annual herb; leaves *ovate-oblong, acuminate, petioled;* racemes *spiciform, axillary and terminal, exceeding the leaves.*

5. **A. scandens,** *Moq.*—*Sl. t.* 90. *f.* 1.—Polygonum, *L.* A. spicata, *Pers.* Basella vesicaria, *Lam.*—Hab. Jamaica (*Sl.*); [Cuba and Mexico to Peru].

4. SALICORNIA, *L.*

Flowers amentaceous, sunk in excavations of the axis. *Calyx* utricular. *Stamens* 1–2. —Stem *jointed, succulent, leafless;* flowers *usually ternate.*

6. **S. ambigua,** *Mich.* Suffrutescent, procumbent; branches ascending, blunt; *joints*

tapering at the base, *dilated at the truncate top*, the teeth of which are minute, blunt, or obsolete.—S. peruviana, *Kth.*—HAB. Turk Islands!, *Hjalm.*; [seashores from the United States to Peru].

5. BATIS, *L.*

Flowers diœcious, amentaceous, naked. ♂: *Stamens* 4, alternating with as many membranaceous scales, enclosed in a bifid, delicate involucre, and inserted upon the base of an orbicular bract: ♀: *Flowers* semi-immersed in the fleshy axis, exinvolucrate, supported by a single bract. *Ovary* 4-celled, crowned by a bilobed stigma: ovule in each cell single, basilar, anatropous. *Syncarpium* baccate: endocarp coriaceous; testa membranaceous; embryo arcuate, exalbuminous.—Shrubby halophytes; leaves *opposite, fleshy;* aments *compact, oblong-cylindrical, axillary and terminal.*

The combination of this genus with *Chenopodeæ* was proposed by Kunth at a time when very little of its structure was known, but now, since Torrey has lately given a complete analysis of it, the difficulty is apparently increased. The chief points of anomaly in this Order may however be lessened by the following considerations:—

1. Torrey adopts in *Batis* a complete flower, interpreting the involucre as a calyx, and the scales as a tetrapetalous corolla: thus the stamens would alternate with the petals. But this anomaly disappears if we compare the scales, which in our specimens are smaller than in Torrey's figure and exceedingly delicate, with the staminodia in other *Chenopodeæ;* and the bifid involucre with the analogous organ in the female flower of *Atriplex*.

2. In the female amentum of *Batis*, the structure of which I know only from Torrey's analysis, the flowers are united to the middle and with the basilar bracts of the system; each flower, supported by a bract analogous to that of the male one, is reduced to a single pistil, which may be considered as a 4-celled ovary, terminated with a bilobed stigma. According to this view, each ovary-cell would contain a single basilar ovule, and this is a kind of placentation, of which analogies in allied plants are completely wanting, while the structure of such a cell might be compared with that of the entire ovary of *Chenopodeæ*. Now the pistil in this family is a reduced one, the two styles showing its compound nature, and that of *Batis* therefore may be considered as showing its full development. The strength of this argument is increased by the similar habit of *Salicornieæ*, their flowers immersed in the axis (though not adherent), the fleshy parts, the coriaceous endocarp, and the membranaceous testa.

3. The exalbuminous embryo of other *Chenopodeæ* is usually combined with cochleate cotyledons, while in *Batis* the embryo is only slightly arcuate; but the fleshy, large cotyledons, with a short conical and inferior radicle, are adapted to the asymmetrical form of the seed, thus indicating an eccentrical development; and such a structure might be compared with the reduction of the common annular embryo in *Caryophylleæ* to a straight lateral one in *Dianthus*.

7. **B. maritima,** *L.* Leaves oblong-linear or linear, flat above, convex beneath.—*Jacq. Amer. Pict. t.* 246: the fruit-bearing plant (copied in Desc. Fl. 7. t. 496); *Torr. in Smithson. Contribut.* 6. *t.* 11.—A diffuse shrub, with the young branches upright, 3′–4′ high; leaves about 1″ long, exceeding the aments; aments paniculate.—HAB. Jamaica!, *March*, common in the salt-marshes of the south side of the island; Turk Islands!, *Hjalm.*; Caribbean Islands; [Florida, Venezuela].

XXIII. AMARANTACEÆ.

Flowers apetalous (2)–3-bracteolate. *Stamens* hypogynous, opposite to the calyx, which is usually scarious. *Ovary* unilocular: placentation basilar. *Embryo* excentrical: perisperm central, mealy.—Leaves *exstipulate, usually quite entire.*

Some species are used in Colonial medicine, being slightly emollient, resolvent drugs: thus in Jamaica *Iresine celosioides* (Juba's-bush) is used as a stomachic by the Negroes (*Pd.*).

In the arrangement of this Order I recur chiefly to R. Brown's generic characters. The characters taken from the staminodia (or, rather, lateral teeth of the filaments), if employed, as Endlicher and Moquin-Tandon did, for the discrimination of the genera, destroy those natural assemblages of species, which from their habit, and especially their inflorescence, are sufficiently obvious.

TRIBE I. *CELOSIEÆ.—Stamens united at the base: anthers 2-locular.*

1. CELOSIA, *L.*

Sepals 5. *Stamens* 5: basilar cupule short, toothless. *Ovary* many-ovulate. *Pericarp* circumscissile.—Leaves *alternate;* flowers *spicate, with the persistent bracts coloured.*

Sect. 1. EUCELOSIA.—*Style filiform: stigmas* 2–3, *minute. Capsule included within the calyx.*—Spike compact, simple.

1. **C. argentea,** *L.* Annual, glabrous; leaves usually lanceolate, acuminate; *spike long-peduncled,* terminal, oblong-cylindrical, tapering at the top; sepals much exceeding the bracts; capsule ellipsoidal, pointed.—*Desc. Fl.* 4. *t.* 254.—C. paniculata, *Desc.* (*non L.*).—Stem about 1′ high; spike silvery, 1″–3″ long: flowers large, 4‴ long.—HAB. Jamaica!, *Dist., Alex.,* and Caribbean Islands; [East Indies!, China!, tropical Africa!; east coast of tropical America].

Sect. 2. LESTIBUDESIA.—*Style tripartite or trifid, or its divisions* 2–4.—Spikes slender, usually interrupted.

2. **C. nitida,** *Vahl. Shrubby,* glabrous; leaves ovate, acuminate, tapering at the base; *spikes* short, lax, axillary and terminal, *subsessile;* sepals much exceeding the bracts; style tripartite; capsule ellipsoidal, enclosed within the calyx.—*Sl. t.* 91. *f.* 1.—C. paniculata, *W., Moq.* (*non L.*).—A virgate shrub, 2′–3′ high; leaves petioled; flowers yellowish-white, 2‴ long.—HAB. Jamaica (*Sl.*); Antigua!, *Nichols.;* [Cuba! to Guadeloupe!; Texas!, California!, Mexico!, Ecuador!].

2. CHAMISSOA, *Kth.*

Sepals 5. *Stamens* 5: basilar cupule short, toothless. *Ovary* uniovulate. *Pericarp* circumscissile: seed arillate.—Leaves *alternate;* flowers *clustered, with the persistent bracts coloured.*

3. **C. altissima,** *Kth.* Shrubby, scandent, glabrescent; leaves ovate, acuminate, uppermost ovate-lanceolate; *spikes* terminal and axillary, *slender,* simply divided; sepals twice as long as the inferior bract; *style* filiform, *bifid;* capsule ovate-oblong, rounded at the top, twice as long as the calyx; arillus membranaceous, including the seed.—*Sl. t.* 91. *f.* 2; *Kth. Nov. Gen.* 2. *t.* 125.—Achyranthes, *Jacq.* Celosia paniculata, *L., Sp. Ed.* 2.—A shrub with herbaceous branches, scandent among trees, sometimes 20′ high; leaves petioled; flowers greenish-white, 1½‴ long: sepals and bracts keeled.—HAB. Jamaica!, *Dist., Al., March;* Trinidad!, *Schach, Cr.;* [Cuba and Mexico to New Granada! and Brazil!].

3. ACHYRANTHES, *L.*

Sepals 5 (–4). *Stamens* 5 (–4), alternating with the appendages of the basilar cupule. *Ovary* uniovulate: style simple, with the stigma capitate. *Pericarp* utricular.—Leaves *opposite;* flowers *subsessile, usually arranged in elongated simple spikes, and at length reflexed, cartilaginous:* bracts *mostly with a spinescent midrib and a membranaceous margin.*

4. **A. aspera,** *L.* Suffrutescent, downy or glabrescent; leaves ovate or rounded; spikes elongated: flowers at length distant, reflexed and appressed to the downy axis; *sepals* 5, connivent, *glabrous, exceeding the* spreading, spinescent *bracts.*—*Sibt. Fl. Græc. t.* 244.—A suffrutescent, but perhaps annual herb, very variable in the branches more or less tetragonal, the down, the shape of the leaves, the proportion of the calyx and bracts, and the length of the bract-awns; leaves petioled; spikes 3″–12″ long; flowers greenish. The varieties, as distinguished by Linnæus, are well characterized in their usual extreme forms: but the greater height, the woody texture, and the stricture of the nodes peculiar to tropical specimens may be regarded as the climatic effect of a longer period of vegetation.

α. argentea, Lam. Leaves ovate, acuminate.—A. aspera, *α, L.;* A. aspera, var., *Gr. Pl. Carib.*

β. obtusifolia, Lam. Leaves obovate-subrotund, mucronulate.—A. aspera, *β, L.* A. aspera, *Moq.*—This is the common West Indian form, but there is no constant difference in the bracts or flowers, and intermediate specimens join it with *α*: *Sieb. Pl. Mixt. n.* 412.

HAB. Jamaica!, *March, Wils.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Nubia!, Niger!; East Indies!; Mexico!, Ecuador!; Canary Islands!, Algeria!, Spain!, Sicily!; Cape of Good Hope!].

4. CYATHULA, *Lour.*

Flowers clustered, central fertile, encircled by (2–) 4 or more abortive ones, which are partly reduced to glochides. *Fertile flower* like that of *Achyranthes.*—Leaves *opposite;* flower-clusters *arranged usually in elongated spikes.*

5. **C. prostrata,** *Bl.* Perennial, suffrutescent, downy or glabrescent; leaves ovate, pointed; spikes axillary and terminal, often ternate: flower-clusters at length recurved; *sepals hairy,* trinerved, twice as long as the bracts; glochides 3–20, at length exceeding the flower, yellowish.—*Wight, Ic. t.* 733.—C. achyranthoides, *Moq.* Achyranthes, *L.* Desmochæta, *DC.* Pupalia, *R. Br.*—Habit of the preceding: leaves tapering at the base into a short petiole; flowers pale, $1'''$–$2'''$ long.—The characters of *C. achyranthoides,* Moq., are of no value, and not even sufficient for distinguishing a spécial variety, Bentham having proved that in the same spike the sterile flowers occur in different degrees of abortion (Niger Fl. p. 493); the variable number of glochides is a mere consequence of this fact; the length of the same organs (which Moquin in *C. prostrata* states as equalling, and in *C. achyranthoides* as exceeding, the calyx) depends upon their state of development; and the lateral bracts of the fertile flower are often in the same specimen either acuminate or terminated with a spinescent and sometimes uncinate midrib.—HAB. Jamaica!, *Al., March;* S. Vincent!, *Guild.;* Trinidad!, *Schach, Cr.;* [Guiana!, Brazil!, New Granada!; Pacific Islands!; East Indies!; tropical Africa, and Canary Islands].

TRIBE II. *GOMPHRENEÆ.—Stamens monadelphous: anthers unilocular. Ovary unilocular.*—Leaves opposite.

5. FRŒLICHIA, *Mch.*

Calyx 5-dentate: tube cylindrical, externally woolly, at length cristate with 5 (–2) longitudinal crests. *Stamens* 5, wholly connate: tube elongated, 5-dentate; anthers oblong, sessile between its protruding teeth. *Stigma* capitate (or penicillate). *Pericarp* utricular.—Annual, downy herbs; superior internodes *elongated;* leaves *subsessile;* flowers *arranged in short compound spikes, of which the lower ones are distant;* bracts *glabrous, coloured.*

6. **F. interrupta,** *Moq.!* Leaves elliptical or lanceolate, villous beneath; spikes ovate or ovate-oblong, tapering at the top, lateral ones sessile; calyx exceeding the bracts: *crests* 5, *dentate,* covered with wool; style distinct: stigma capitate.—*Lam. Ill. t.* 180. *f.* 2; *and L'Hér. Stirp. t.* 3: the broad-leaved form; *Jacq. Ic. Rar. t.* 51 *and Hook. Ic. t.* 256: the narrow-leaved form.—Gomphrena, *L.:* the former; T. floridana, *Moq.:* the latter. Both forms occur in Jamaica, and are not to be distinguished.—Stem $1'$–$3'$ high; upper internodes much exceeding the leaves; inflorescence terminal, constituted of a larger terminal, and several pairs of opposite lateral spikes; flowers purple, but enveloped within the silky cotton-like wool of the calyx.—HAB. *Al., March,* in the dry, sandy fields of the south, *e.g.* near Kingston; [Mexico!, Texas!, Florida!].

6. GOMPHRENA, *L., R. Br.*

(Gomphrena, *sect.* Wadapus, *Moq.*)

Sepals 5. *Stamens* 5, wholly connate: anthers oblong, alternating with and inserted between the protruding bipartite teeth, which terminate the elongated tube. *Stigmas* 2, linear. *Pericarp* utricular.—Flowers *capitate, forming usually globose heads, at length enveloped by wool.*

7*. **G. globosa,** *L.* Annual, erect; leaves lanceolate-oblong; flower-heads globose, diphyllous at the base, usually solitary; *lateral bracts keeled with a serrate wing,* exceeding the woolly calyx; sepals uninerved.—*Desc. Fl.* 5. *t.* 320.—A pubescent but green herb; flowers $4'''$–$5'''$ long, usually purple.—HAB. Naturalized in Jamaica (*Br.*); [introduced from the East Indies].

7. MOGIPHANES, *Mart.*

(Telanthera, *sect.* Mogiphanes *et* Brandesia, *Moq.*)

Sepals 5, separated from the bracts by a short internode. *Stamens* 5, connate: tube campanulate; anthers oblong; filaments alternating with the protruding simple teeth of the tube. *Stigma* capitate. *Pericarp* utricular.—Flower-heads *usually solitary, stalked, without enveloping wool.*

8. **M. Jacquini,** *Schrad.* Perennial, downy or glabrescent; leaves ovate or ovate-lanceolate, pointed; *flower-heads* long-stalked, *globose,* at length depressed, *white,* leafless; *lateral bracts exceeding* a little *the calyx,* keeled with a crest; sepals villous towards the base, tricostate, acuminate.—*Jac. Ic. Rar. t.* 346.—Gomphrena brasiliensis, *Jacq.* (*non Lam.*). Telanthera dentata, *Moq.* (*partim*).—A high, suffrutescent herb: branches spreading, usually terminated with 1–3 peduncles; flower-heads snow-white, 4‴–6‴ diam., internode below the flower ⅓‴ long; calyx 1½‴ long.—HAB. Dominica!, *Imr.*; S. Vincent, *Guild.*; Trinidad (*Sieb.*); [Guiana!, Brazil!].

9. **M. straminea,** *Mart.* Perennial, downy or glabrescent; leaves ovate or lanceolate, pointed; *flower-heads* long-stalked, *globose,* at length ovoid-oblong, *straw-coloured,* leafless; *lateral bracts half the length of the calyx,* or even shorter, subulate; sepals villous on the back, tricostate, acuminate.—*Mart. Nov. Gen.* 2. *t.* 135 *et t.* 131.—M. multicaulis, *Mart.* Telanthera brasiliana, *Moq.!* (*exclus. synon.*). T. multicaulis, *Moq.!*—Nearly allied to the preceding, but easily distinguished by the colour of the flower-heads, and the exserted calyx: very variable in the shape of the leaves; flower-heads, when flowering, 4‴–5‴ diam., at length 6‴–10‴ long; calyx 2‴ long, supported by an internode, which is not longer than in the preceding.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, on dry ground; [Mexico!, Brazil!, as far south as S. Katherine!].

8. IRESINE, *L.*

(Iresine, *sect.* Rosea *et* Iresinastrum, *Moq.* Alternanthera, *sect.* Trommsdorffia, *et* Gomphrena, *sect.* Serturnera *et* Hebanthe, *Moq.*)

Flowers polygamous or diœcious. *Sepals* 5, in the female flower encircled by, and at length enveloped within wool. *Stamens* 5: basilar cupule usually toothless; anthers elliptical. *Stigmas* 2 (–3), subsessile (sometimes coadunate in a young state). *Pericarp* utricular, at length irregularly bursting.—Flowers *small, membranaceous, capitate or spicate:* clusters *arranged in very branched panicles;* bracts *membranaceous, usually concave.*

10. **I. celosioides,** *L.*, *Moq.!* Annual, suffrutescent or herbaceous, trailing; *leaves ovate,* pointed, petioled; *flowers* diœcious, *spicate: spikes sessile,* whitish, arranged in compound, leafless panicles; *lateral bracts not keeled,* concave, exceeded by the calyx; sepal-nerves 3 (or inconspicuous), evanescent below the top; stigmas 2, linear, divergent.—*Sl. t.* 90. *f.* 2; *Mart. Nov. Gen. t.* 153, 154.—I. diffusa, *Humb. et Bonpl.*, *Moq.!* I. polymorpha, *Mart.* I. eriophylla, *Moq.*, *etc.*—Stem slender, about 2′–4′ high; flowers ½‴ long: wool of the rachis 1‴–2‴ long.—This is one of the most variable plants, comprehending perhaps all species of Moquin's *Iresinastrum,* though the West Indian forms cannot even be divided into separate varieties. The amount of variability regards chiefly the following particulars:—Stem weak and scandent, or woody below, glabrescent or glabrous; leaves tapering at the base, or subcordate, all ovate, or the superior ovate-lanceolate, deltoid or acuminate, glabrescent and ciliate, or pubescent, and with a dense, persistent down beneath, variable in size; panicle lax, spreading, 1′ long and longer, or narrow and contracted to 1″ length, terminal, or with axillary branches; spikes ovate or cylindrical, contiguous or interrupted, snow-white or pale straw-coloured; sepals linear, oblong-linear or oval-oblong, exceeding twice the lateral bracts or shorter, glabrous, or pubescent below and on the back: their nerves very delicate or prominent.—HAB. Jamaica!, *Pd.*, *Bancr.*, *Al.*, *Wils.*, *March,* common among shrubs, 0′–4,000′; Antigua!, *Nichols.*; Dominica!, *Imr.*; Trinidad!, *Sieb.*, *Schach*, *Cr.*; [Kentucky!, Texas!, Cuba!, and Mexico! to Brazil!, Peru!, and Buenos Ayres!].

11. **I. elatior,** *Rich.* Herbaceous, glabrous, trailing; *leaves lanceolate,* acuminate, petioled; *flowers* polygamous, *spicate: spikes peduncled,* pale-rufescent, arranged in pyra-

midal panicles, which are leafy below; *lateral bracts* concave, but *keeled*, equalling the calyx; sepal-nerves 3 (or lateral inconspicuous), evanescent below the top; stigmas 2 (-3), linear, divergent.—*Mart. Nov. Gen. t.* 155.—Rosea, *Mart.* Ires. celosioides, *Sw.* (*non L.*). I. angustifolia, *Euphrasen:* a form with narrow leaves.—Habit of the preceding, but easily distinguished by the slender peduncles of the special spikes, and their colour; flowers ⅔‴ long: wool 2‴–3‴ long, proceeding not only from the rhachis, but also from the back of the calyx. —Hab. Jamaica!, *Al., March;* Antigua!, *Nichols.;* Trinidad!, *Lockh.;* [Cuba, Haiti!, Panama!, New Granada!, Ecuador!, Brazil!].

12. **I. luzuliflora,** *Gr.* Suffrutescent, pubescent; leaves ovate or ovate-lanceolate, pointed, petioled; *flowers* polygamous, *capitate: heads* subglobose, whitish, *peduncled, arranged in corymbose panicles;* bracts concave, exceeded three times by the calyx; sepal-nerves 3, excurrent, prominent; *filaments entire,* subdenticulate; stigmas at length distinct, oblong.—*Mart. Nov. Gen. t.* 138.—Gomphrena, *Moq.!* Alternanthera iresinoides, *Kth.* (Serturnera, *Mart.*, Gomphrena, *Moq.!*). Serturnera glauca, *Mart. ib. t.* 136, 137 (Gomphrena, *Moq.*): a narrow-leaved form.—A tall herb, like the preceding species, geniculated at the constricted nodes, covered by a short, persistent down; panicle compound, terminal, leafless, with accessory axillary ones; flower-heads 2‴–3‴ diam., often snow-white, supported by a spreading peduncle; flowers often hermaphrodite, or the male ones with an abortive pistil; wool proceeding from the rhachis and from the back of the calyx, flexuose, and equalling the flower (1‴–1½‴ long).—Hab. Trinidad!, *Schach, Lockh., Cr.;* [Venezuela!, Brazil!, Buenos Ayres!].

13. **I. aurata,** *Dietr.* Frutescent, climbing; branchlets minutely pubescent; leaves elliptical, pubescent beneath, petioled; *flowers* polygamous, *capitate: heads* minute, globose, yellowish-white, the lateral superior ones subsessile, all *arranged in a pyramidal panicle;* bracts concave, exceeded three times by the calyx; sepal-nerves 3, excurrent; *filaments produced on each side into a rounded, basilar lobe,* which is shortly prominent from the cupule; stigma bipartite: segments oblong.—*Mart. Nov. Gen. t.* 139.—Trommsdorffia, *Mart.* Alternanthera, *Moq.* Iresine elatior, *Sieb.* (*non Rich.*).—A climber, with spreading branches; flower-heads 2‴ diam., 5–11-flowered, exceeded a little by the flexuous, spreading wool.—The structure of the short cupule is not that of *Alternanthera;* for it was only by mistake that the filament-lobes were described as simple and alternating with the filaments. They are quite analogous to those of *Hebanthe,* and differ from them only in their rounded shape, and in their position at the base of the free part of the filament, being consequently double between each pair. The erroneous character of *Trommsdorffia* may have been the cause why our plant in herbaria is occasionally confounded with some species of *Hebanthe,* and by Moquin with his *Gomphrena pulverulenta;* all forms, however, of *Iresine* which correspond with Martius's *Hebanthe,* are easily to be distinguished by having solitary flowers, arranged in interrupted, elongated spikes.—Hab. Trinidad!, *Lockh.;* [Mexico!, Venezuela!, Brazil!, as far south as S. Katherine!].

9. PHILOXERUS, *R. Br.*

(Iresine, *sect.* Philoxerus, *Moq., partim.*)

Sepals 5, two interior narrower, but of equal length, supported by, but not enveloped within wool. *Stamens* 5: basilar cupule short, toothless; anthers oblong. *Style* 2-partite. *Pericarp* utricular.—Leaves *narrow;* flowers *scarious:* spicules *glomerate, and arranged in terminal, subglobose* flower-heads; bracts *scarious, keeled, conduplicated, inferior sometimes sterile.*

This genus, if compared with the preceding, is not nearly related to it, though approaching it in the structure of the sexual organs: it is distinguished by the stiff, scarious sepals, by hermaphrodite flowers, and by the wool, which is attached to the base of the two inner sepals, not growing out. R. Brown has compared it with *Lithophila,* with which it might as well be combined.

14. **P. vermiculatus,** *R. Br.* Perennial, decumbent, diffuse; leaves linear, tapering towards the base, convex beneath, glabrous; *flower-heads globose,* at length ovate or oblong, *white,* usually leafy at the base; *sepals trinerved below the middle,* nearly equalling the lateral bracts, exterior glabrous: the lateral nerves joined at the middle with the excurrent midrib.—*Beauv. Fl. Owar. t.* 98.—Illecebrum, *L.* Iresine, *Moq.* I. aggregata, *Moq.!:* the

form with oblong flower-heads.—Stem herbaceous, with creeping branches, radicant at the nodes; leaves fleshy, sometimes enlarged a little towards the top; flower-heads 6'''–4''' diam., often shining: flowers $1\frac{1}{2}$'''–1''' long.—HAB. Jamaica!, *Pd.*, *Macf.*, *March;* S. Vincent!, *Guild.;* [S. Thomas!, Guadeloupe]; Bahamas!, *Swains.;* Trinidad!, *Cr.*, on the sandy seashore; [Cuba! to Brazil!, Florida!, Cape Verde Islands!, Senegambia!].

10. LITHOPHILA, *Sw.*

(Iresine, *sect.* Philoxerus, *Moq.*, *partim.* Alternanthera, *sect.* Dassiera, *Moq.*, *partim.*)

Sepals 5, two interior narrower, and opposite the fertile stamens, supported by, but not enveloped within short wool. *Stamens* 2: anthers oblong or linear; basilar cupule short, with three sterile filaments, which are opposite the outer sepals. *Style* bifid or bipartite. *Pericarp* utricular.—Leaves *subsessile lowest rosular*: axils *woolly;* flowers *capitate, forming subglobose, axillary and terminal heads:* bracts *keeled;* sepals *white, scarious to the middle, membranaceous above and on the margin, usually with a greenish, suprabasilar blotch on each side of the midrib.*

R. Brown was the only botanist who had examined this genus after Swartz, and though he mentioned it in speaking of *Philoxerus* (*Prodr. p.* 416), it was considered as of doubtful affinity by all subsequent writers, and consequently excluded from the *Amarantaceæ*. There was, however, no reason whatever for such doubts, as I was happy to learn from the complete manuscript descriptions which R. Brown (some months before his death) had the kindness to communicate to me, and from the original specimens, contained in the Banksian collection: from these and other materials it is satisfactorily proved that *Lithophila* has several synonyms among Moquin's *Amarantaceæ*. According to Moquin's systematic views, their proper place would have been in his section *Philoxerus*, where, indeed, one of the forms is described; but from a misinterpretation of the staminal cupule, he has referred the bulk of *Lithophilæ* to *Alternanthera*, though they have no cupule-teeth alternating with the calyx, and though one of his species is probably a mere synonym of that which he had described as a *Philoxerus*.

The *Lithophilæ* grow among rocks on the seashore, and from their roots penetrating into the fissures of the stone, and deriving from them a variable quantity of moisture and nourishment, they are subject to variation in the size of the stem and the flowers, the ramification, and the shape and length of the leaves; thus the original description of *L. muscoides*, Sw., applies only to a dwarfish, reduced form of a much larger plant, which Swartz afterwards seems not to have recognized as identical, having named it otherwise in his herbarium.—A second species, peculiar to the Galapagean Archipelago, is equally variable; this is the *Alternanthera subscaposa*, T. Hook.!, distinguished by a stiff stem, solitary, terminal flower-heads; *the inner sepals equalling in length the outer ones*, which are uninerved by linear anthers, and a bipartite style, with longer, linear stigmas: to this perhaps may be reduced also *A. radicata*, T. Hook.! (*A. acaulis*, Anders.!), in which a midrib exists really below the middle of the outer sepals.

15. **L. muscoides,** *Sw.!* Perennial, *decumbent*, usually diffuse and creeping; leaves oblanceolate or linear, glabrous; flower-heads ovoid-globose, or at length oblong, terminal and axillary, the latter sessile; bracts almost equalling the flower; *outer sepals exceeding* in length *the inner ones*, elliptical-oblong, blunt, with an excurrent midrib and a pair of lateral ribs which line the scarious part and join the former in the middle; anthers oblong, *style bifid:* stigmas short, linear.—*Sw. Fl. t.* 1: *analyt.*—The variability affects chiefly the following particulars: stems and branches spithameous, or only 1'' long; leaves 3'''–16''' long; flower-heads 1'''–6''' long, terminal ones peduncled, or leafy at the base.

α. longifolia. Leaves elongated, long-tapering towards the base; terminal flower-heads usually peduncled.—Alternanthera caribæa, *Moq.*

β. brevifolia. Leaves short, oblanceolate; all flower-heads sessile.—Achyranthes linearifolia, *Sw. ap. Wickstr.* Iresine linearis, *Moq.*

HAB. Navaza!, a desert island between Jamaica and Haiti, on maritime rocks, *Sw.;* [S. Barthélemi, S. Eustache!, *Hb. Bks.;* Guadeloupe!].

11. ALTERNANTHERA, *Forsk.*

(Telanthera, *R. Br.* Alternanthera, *sect.* Allaganthera, *Moq.*, *et* Telanthera, *sect.* Bucholzia, *Moq.*)

Sepals 5, at length not enveloped within wool. *Stamens* 3–5: anthers oval; basilar cupule short. *Stigma* subsessile, capitate (or subemarginate). *Pericarp* utricular, obcordate, margined upwards, and exceeding the seed.—Herbs; leaves *tapering at the base;* flowers *capitate, forming subglobose, axillary and terminal, mostly sessile heads.*

Sect. 1. ALLAGANTHERA.—*Stamens* 3, *fertile, opposite the outer sepals, and two sterile filaments, opposite the inner ones: cupule-teeth none (or obsolete).*

16. **A. sessilis,** *R. Br.* Annual, creeping and branched at the base; stems ascending, with two lines of hairs, or glabrescent; leaves quite entire, obovate-lanceolate or lanceolate, usually glabrous: axils pilose; flower-heads sessile, white; *sepals uninerved,* glabrous, three times exceeding the bracts, and subexceeded by the pericarp; *staminal cupule very short, toothless* (with the exception of the sterile filaments).—*Wight, Ic. t.* 727.—Stems spithameous: internodes exceeding the spreading leaves; flowers $\frac{2}{3}'''$ long.—HAB. Trinidad!, *Schach, Cr.*, common along roads; Caribbean Islands!; [Haiti to Guiana!, Brazil!, Buenos Ayres!, Niger!, Nubia!, Egypt!, Talūsch!, East Indies!].

Sect. 2. TELANTHERA. *Stamens alternating with the teeth of the cupule,* 5, *all fertile (sometimes* 2 *of them castrate).*

17. **A. polygonoides,** *R. Br.* Perennial, glabrous or pubescent; branches elongated, distant; leaves elliptical-lanceolate, shortly petioled; flower-heads sessile, white; *sepals* of unequal length, *exterior pungent,* twice exceeding the lateral, spreading, pungent bracts, *hispid* on the back, 3-*costate: lateral nerves converging above the middle;* teeth of the staminal cupule prominent, cut at the top, equalling or exceeding the stamens; pericarp included.—*Sl. t.* 86. *f.* 2: *a Linn. citat. Mart. Nov. Gen. t.* 148–151.—Illecebrum, *L.* Bucholzia, *Mart.* Telanthera, *Moq.* (*exclus. var.* ζ).—A very variable, herbaceous plant, with the internodes exceeding the leaves, higher than the similar *A. sessilis,* either erect or decumbent; flower-heads $2'''$–$3'''$ diam.: flowers $1\frac{1}{2}'''$–$2'''$ long.

α. Stem pubescent or villous; leaves pubescent beneath: younger organs whitish with down.—Telanthera crucis, *Moq.* Alternanthera leucantha, *Moq.*—*Tel. martinicensis,* Moq., is perhaps also a form of this, with rounded leaves.

β. glabrescens. Stem and leaves glabrous or glabrescent: axils pilose; sepals less hispid. —T. ficoidea, *Moq.!* (*exclus. synon.*).—*Alternanthera tenella,* Colla (*in Mem. Turin.* 33. *t.* 9), is probably the same form; but in the analysis (perhaps by mistake) the sepals are represented as of equal length.

HAB. Jamaica!, *Alex.*, *Wils.* (α, β), *March* (α and β), common; Caribbean Islands and Trinidad!, *Cr.;* [Cuba to Buenos Ayres].

18. **A. ficoidea,** *R. Br.* Perennial, prostrate, radicant, glabrous; leaves oblanceolate, venulose, glabrous: axils villous; flower-heads sessile, white; *sepals of equal length,* pointed, nearly twice exceeding the bracts, pilose below on the back (or glabrescent), 3(–5)-*costate: lateral nerves joined with the midrib at the middle;* teeth of the staminal cupule prominent, cut at the top, usually shorter than the stamens; pericarp included.—*Jacq. Amer. Pict. t.* 90: *a Linn. citat. Mart. Nov. Gen. t.* 147.—Illecebrum, *L.* Bucholzia maritima, *Mart.* (Telanthera, *Moq.*). Telanthera polygonoides, *var.* compacta, *Moq.!*—The old creeping stems become elongated and woody, prostrate with all their crowded, short branches; flower-heads shining, $3'''$–$4'''$ diam.: flowers nearly $2'''$ long.—HAB. Jamaica!, *Dist.;* Caribbean Islands, chiefly on the sandy seashore; [Cuba! and Mexico! to Buenos Ayres! along the east coast, west coast of Africa].

19. **A. Achyrantha,** *R. Br.* Perennial; stem decumbent, leafy, pilose; leaves obovate or oval, venulose, glabrous; flower-heads sessile, straw-coloured or whitish; *sepals of unequal length,* exterior mucronate, subpungent, exceeding the bracts, *villous* below on the back, 3-*costate: lateral nerves joined with the midrib at the middle;* teeth of the staminal tube short, subulate, entire, exceeded by the stamens; pericarp included.—*Dill. Elth.* 1. *t.*

7. *f.* 7.—Stems rosulate, elongated, herbaceous or suffrutescent; flower-heads ovoid, about 4''' long: flowers 1½''' long. The villous down of the calyx distinguishes this species from *A. polygonoides.*—HAB. Bahamas!, *Swains.*; Caribbean Islands; [Southern United States!, Cuba!, and Mexico! to Brazil! and Buenos Ayres!, Teneriffe!, Andalusia!].

TRIBE III. *AMARANTEÆ.—Stamens distinct: anthers mostly bilocular. Ovary uniovulate.*—Leaves alternate.

Gossypianthus is the only genus in this tribe with unilocular anthers: *G. lanuginosus*, Moq. (*Tuss. Fl.* 2. *t.* 21), is indigenous in Haiti!, but not yet observed in the British Islands.

12. AMBLOGYNE, *Raf.*

Flowers monœcious. ♂: *Sepals* 3; stamens 3. ♀: *Calyx* 5-fid: tube urceolate; styles 2–3. *Pericarp* utricular.—*An annual, cæspitose, glabrescent* herb; leaves *spathulate, retuse, mucronate;* flower-clusters *axillary.*

20. **A. polygonoides,** *Raf.*—*Sl. t.* 92. *f.* 2.—Amarantus, *L.: ex citat. Sl.*—Flowers greenish-white; lobes of the female calyx spathulate-linear, blunt, trinerved.—HAB. Jamaica!, *Macf.*; Bahamas!, *Swains.*; Antigua!, *Nichols.*; [Florida!, New Mexico!, Cuba!, Guiana].

13. SCLEROPUS, *Schrad.*

Flowers monœcious: bracts at length indurated, with the pedicel thickened. *Sepals* 5. *Stamens* 3. *Styles* 2. *Pericarp* utricular.—*Annual, glabrous* herbs; flower-clusters *axillary.*

21. **S. amarantoides,** *Schrad.* Leaves spathulate, retuse, mucronate.—Amarantus crassipes, *Schlecht.*—Habit of *Amblogyne;* clusters deciduous at the maturation of the fruit; flowers greenish: bracts keeled, subpungent, recurved, exceeded by the uninerved sepals.—HAB. Jamaica!, *Al.*; [S. Thomas, Mexico, Peru].

14. EUXOLUS, *Raf.*

Flowers usually monœcious. *Sepals* 3 (–5). *Stamens* 3 (2–5). *Styles* 3. *Pericarp* utricular.—Annual herbs; flower-clusters *all, or the superior ones, spicate.*

22*. **E. viridis,** *Moq.* Glabrous; leaves ovate or rhomboid, usually retuse; *flower-clusters axillary, subglobose, superior in a terminal,* contiguous, *simple spike, green;* bracts half the length of the calyx; *pericarp* rounded, *without prominent wrinkles.*—*Sl. t.* 92. *f.* 1.—Amarantus, *L.: ex citat. Sl. et Herb. Linn.* A. Blitum, *L.: ex loc. Suec.* Albersia Blitum, *Kth.*—HAB. Naturalized in Jamaica (*Sl.*); Dominica!, S. Vincent!, *Guild.*; [Southern Europe!; United States!, Guiana!, Buenos Ayres!, Pacific islands!, East Indies!, tropical Africa!].

23. **E. caudatus,** *Moq.* Glabrous; leaves ovate, retuse; *flower-clusters all spicate,* forming a terminal panicle: spikes slender, green; bracts three times shorter than the calyx; *pericarp* rounded, *rugose.*—*Jacq. Ic. Rar. t.* 244.—Chenopodium. *Jacq.*—HAB. Jamaica!, *March;* Caribbean Islands (*Moq.*); [all tropical countries].

15. AMARANTUS, *L.*

Flowers polygamous or monœcious. *Sepals* 5–3. *Stamens* 5–3. *Styles* 2–3. *Pericarp* circumscissile, or irregularly bursting above the base.—Annual herbs; flower-clusters *usually spicate, all, or the superior ones, arranged in a terminal panicle.*

Sect. 1. CENTRUSA.—*Pericarp bursting transversely, but incompletely above the base. Flowers monœcious.*

24. **A. spinosus,** *L.* Glabrous; leaves rhomboid or rhomboid-lanceolate: *axils bispinose;* male clusters panicled and spicate, female ones mostly axillary and subglobose; sepals 5, equalling the bracts and the pericarp, pointed, greenish.—*Willd. Amar. t.* 4. *f.* 8; *Desc. Fl.* 5. *t.* 314; *Wight, Ic. t.* 513.—Spines 4'''–5''' long, exceeded by the petiole.—HAB. Jamaica (*Sl.*) to Trinidad!, *Schach, Cr.*; [Southern United States!, Mexico! to Peru!, and Brazil!; Galapagos Islands!, East Indies!, western tropical Africa!].

Sect. 2. EUAMARANTUS.—*Pericarp circumscissile at the middle. Flowers polygamous.*

25. **A. tristis,** *L.* Glabrous; leaves rhomboid-ovate, blunt, and usually retuse; clusters panicled, greenish: superior spikes cylindrical, contiguous, flexuose, inferior interrupted at the base or reduced to axillary clusters; *sepals* 5, oblong, mucronate, pale, with a green keel, *nearly equalling the spinescent bracts* and the pericarp.—*Willd. Amar. t.* 5. *f.* 10; *Wight, Ic. t.* 514, 713.—HAB. Jamaica!, *Dist.*, to Trinidad!, *Schach*; [Chili!].

26. **A. paniculatus,** *L.* Pubescent; leaves ovate or rhomboid-oblong; clusters panicled, purpurascent, red, or greenish: spikes cylindrical, crowded, spreading; *sepals* 5, oblong, mucronate, *nearly half the length of the spinescent bracts;* pericarp exceeding the calyx.—*Willd. Amar. t.* 2. *f.* 3, 4.—A. sanguineus, *L.*—HAB. Bahamas (*Linn.*, *Mart.*); [Guiana! and all tropical countries].

XXIV. NYCTAGINEÆ.

Flowers apetalous. *Calyx* corolline: base persistent, and at length including the fruit. *Stamens* hypogynous. *Ovary* unilocular: ovule solitary, basilar; style simple. *Embryo* excentrical: perisperm central, mealy.—Leaves *entire, mostly opposite: the pair unequal, and the nodes tumid.*

Drastic properties are general in this Order: consequently *Mirabilis* and *Boerhaavia* yield drugs used in Colonial medicine.

1. MIRABILIS

Calyx infundibuliform or tubular, encircled by a 5-lobed involucre, which is single-flowered. *Stamens* 5. *Embryo* incurved.—Perennial herbs.

1. **M. Jalappa,** *L.* Glabrescent; leaves ovate or subcordate, pointleted; termina- flowers fascicled; calyx-tube much exceeding the involucre: limb spreading, 5-lobed.—*Desc. Fl.* 2. *t.* 139.—M. dichotoma, *Desc.* (*an L.?*).—I have no particular knowledge of the West Indian forms in this genus, and am not aware of any positive character for *M. dichotoma*, L.—HAB. Jamaica (*Sl.*, *Lun.*), Caribbean Islands, common; [Mexico, Guiana].

2. BOERHAAVIA, *L.*

Calyx constricted above the persistent tube: limb shortly 5-lobed. *Stamens* 1–3 (–4). *Pericarp* perfectly enclosed by the indurated calyx-tube, which at length is closed at the top. *Embryo* conduplicated.— Perennial *or* suffrutescent herbs: flowers *fascicled or umbellate, with minute bracts.*

2. **B. erecta,** *L.* Ascending, glabrous; leaves ovate or ovate-lanceolate, pointed, whitish beneath; fascicles arranged in a *strict, narrow panicle; calyx-tube* at length *clavate, angular, truncate,* and bluntly mucronate at the top, *glabrous*, 5-*costate*, with prominent ribs. —*Jacq. Ht. Vind.* 1. *t.* 5, 6.—Flowers pale-red.—HAB. Jamaica!, *Bancr.*, *M'Nab*; Caribbean Islands; [Georgia!, Florida!, Mexico, Galapagos Islands!].

3. **B. paniculata,** *Rich.* Ascending, glabrous; leaves ovate, rounded at the top, subciliate, usually whitish beneath; fascicles arranged in an *elongated, spreading panicle;* peduncles lax, filiform; *calyx-tube* at length *clavate, angular, rounded at the top,* 5-costate, with delicate, glandular ribs.—*Plukn. Almag. t.* 226. *f.* 7.—B. diffusa, *Sw.*, *Lun.*—Flowers red.—HAB. Jamaica!, *Macf.*, *Wils.*, in cane-fields; Dominica!, Barbadoes, Trinidad!, *Sieb. Trin.* 88; [Texas!, Panama!, Galapagos Islands!; Cape Verde Islands!].

4. **B. hirsuta,** *W.* Ascending, pubescent; leaves ovate, rounded, subsinuate, concolor or somewhat whitish beneath; fascicles arranged in *short, spreading panicles*, or axillary, corymbose and simple, stalked; *calyx-tube* at length *clavate-cylindrical, rounded at the top,* costate with *ribs* which are densely glandular.—*Jacq. Obs. t.* 84; *Jacq. Ht. Vind.* 1. *t.* 7.—B. caribæa, *Jacq.*—Flowers blood-red.—HAB. Jamaica!, *Macf.*, *Al.*, *March*; Antigua!, S. Vincent!, *Guild.*; [Texas! to Guiana!, Galapagos Islands!].

5. **B. scandens,** *L.* Suffruticose, divaricate, *trailing*, glabrous; leaves cordate-round-

ish, concolor, and with white pimples beneath; *flowers umbellate:* umbels terminal, on simple, axillary peduncles; *calyx-tube* ellipsoidal, at length clavate, *ecostate*, subtruncate and glandular at the top.—*Jacq. Ht. Vind. v.* 1. *t.* 4.—Flowers yellow, 3‴ long: limb spreading, equalling the tube, which is dark-coloured.—HAB. Jamaica (*Sl., P. Br.*); Bahamas !, *Swains.;* [Cuba !, Mexico !, to Peru; Galapagos Islands !].

3. PISONIA, *L.*

Flowers polygamous, or diœcious by abortion. *Calyx-limb* 5-lobed or 5-toothed. *Stamens* 6–8 (5–10), exserted in the male flower. *Stigma* multifid. *Pericarp* included within the indurated or baccate calyx-tube. *Embryo* straight.—Trees *or* shrubs; leaves *opposite or partly alternate;* flowers *supported by* 3 (–1) *minute bracts, glomerate or fascicled: the clusters arranged in axillary and terminal cymes.*

Sect. 1. TRAGULARIA.—*Fruit-bearing calyx-tube indurated, glutinous from five series of thick glands. Central perisperm cylindrical, lengthwise incised by a thin pericarpial plate.*

6. **P. aculeata,** *L.* Trailing, armed with axillary spines; leaves elliptical, shortly tapering at both ends, petioled; cymes stalked, pubescent, most of them axillary: *flowers glomerate;* male calyx infundibular: limb 5-fid; *female calyx* campanulate, at length *clavate-prismatical: angles glandular to the base: glands* prominent, capitate, *with* thickened, compressed, glabrous *stalks: interstices pubescent.—Lam. Ill. t.* 861; *Sl. t.* 167. *f.* 3, 4: badly.—A scandent shrub, 8′–20′ high: spines strong (4‴ long), perpendicular to the branch, and somewhat crooked; leaves leathery, but deciduous, either coetaneous with the flowers or serotine, glabrous or glabrescent: petiole nearly equalling the stalk of the axillary cyme; flowers in both sexes 1‴ long, greenish-yellow; stamens usually 8, twice the length of the male calyx: female calyx-tube at length 5‴–6‴ long, 1‴ diam. (2‴ with the glands), truncate and minutely perforated at the top.—HAB. Jamaica !, *Al.*, Antigua !; *Nichols.;* Dominica !, *Imr.*, in hedges and among trees; [Mexico ! to Brazil, as far south as Rio Grande do Sul !, Madagascar !, East Indies !].

7. **P. nigricans,** *Sw. !* (*non alior.*). Unarmed, or spiny below; leaves ovate or elliptical, petioled; cymes stalked, divaricate, villous-pubescent: *flowers fascicled,* with the pedicels nearly equalling the male calyx; tube of the male calyx turbinate: limb spreading, 5-fid; *female calyx* campanulate, at length clavate-oblong or *oblong, obtuse-angled: angles glandular to the base: glands* short, *sessile: sides pubescent.*—P. discolor, *Spr. ?* (*non Chois. descr.*).—Branches glabrescent (unarmed in the Jamaica specimens, but old branches, collected in Cuba by Wright, bearing crooked spines, just as in *P. aculeata*); leaves similar to those of the preceding, 2″–3″ long, $1\frac{1}{2}$″–$1\frac{3}{4}$″ broad, blunt, glabrous, green on both sides, but paler beneath, (often brown by being dried): petiole 6‴–10‴ long, glabrescent, enlarged at the top; cymes terminal on the branchlets, or lateral, the male more spreading (2″ diam.) than the female ones, the pedicels of which are also shorter, when flowering; male calyx 1‴ long and broad, pubescent, more than twice exceeded by the 6–7 stamens, including an abortive pistil; female calyx $\frac{2}{3}$‴ long, narrow, 5-toothed, villous, exceeded by the style, and including abortive stamens: at length 4‴ long, 2‴ broad, tapering shortly at the base, perforated at the rounded or subtruncate top (the enclosed fruit not yet quite ripe in our specimens).—HAB. Jamaica !, *Al., March,* in woods, *e.g.* S. Thomas in the Vale; [eastern Cuba !].

8. **P. subcordata,** *Sw. !* (*non Chois.*). Unarmed; leaves cordate-roundish, petioled; cymes stalked, minutely pubescent; *flowers glomerate;* male calyx infundibular, shortly 5-lobed; *female calyx* at length *clavate-linear, cylindrical, with* serial *sessile glands above the middle:* hairs minute, scattered.—A tree: branches glabrous, cylindrical; leaves leathery, glabrous, brown by being dried, 4″–5″ long and broad, rounded at the top or with a short point: petiole 8‴–12‴ long; cymes contracted, mostly terminal, precocious; flowers greenish; male calyx 1‴ long: stamens 6–8, shortly exserted; fruit-bearing calyx 4‴–6‴ long, $\frac{2}{3}$‴ broad, striate, tapering at the base, bluntish at the top, which is nearly closed: glands small, cuboid.—HAB. S. Kitts, Antigua !, *Ponthieu,* on chalky hills; [S. Thomas to Guadeloupe !].

Sect. 2. Pacurero.—*Fruit-bearing calyx-tube baccate, not glandular. Central perisperm channelled by a thick longitudinal projection of the pericarp (exhibiting consequently in the transverse section a semilunar figure).*

9. **P. inermis,** *Jacq.* Unarmed; *leaves* elliptical or elliptical-oblong, pointed or bluntish, petioled; cymes stalked, minutely pubescent, most of them terminal; *flowers glomerate, subsessile;* male calyx infundibular, tapering at the base: limb shortly 5-lobed; *female calyx* at length *baccate, multistriate* or smooth, *ovate-lanceolate,* glabrous: *ribs filiform.—Seem. Bot. Her. t.* 34.—P. mitis, *Brit. Mus.!* P. nigricans, *Chois.* (*non Sw.*): a larger-leaved form. P. coccinea, *Sw.!:* a form identical with *P. Pacurero,* Kth. (figured by Seemann), with the leaves smaller, more tapering, and turning black or remaining green when dried. The comparison of a greater number of specimens convinces me of the necessity of combining the two species, distinguished by Choisy as *P. nigricans* and *P. Pacurero.*—A shrub or low tree, $12'$–$20'$ high: leaves very variable, pointed or bluntish at both ends, glabrous, membranaceous or leathery; cymes terminal on young branchlets: "peduncles at length turning red" (Jacq.); flowers yellowish-green, $2'''$ long; fruit-bearing calyx $5'''$–$6'''$ long, first cylindrical, afterwards $1\frac{1}{2}'''$–$2'''$ thick at or below the middle, without prominent angles, "red" or "black."—Hab. Jamaica!, *Macf., Pd., Al., Wils., March;* Antigua!, *Ponthieu, Nichols.;* Dominica!, *Imr.* (both forms); S. Vincent!, *Guild.,* Barbadoes!, Trinidad!, *Lockh., Holt., Pd.;* [Cuba! and Mexico to Ecuador!, Guiana! and Brazil].

10. **P. obtusata,** *Sw.!* Unarmed; *leaves* obovate or obovate-oblong, *rounded at the top,* and tapering towards the petiole, glabrous or glabrescent; cymes stalked, minutely pubescent, terminal: *flowers shortly pedicellate;* male calyx infundibular: limb obtusely 5-toothed; *female calyx* at length *baccate, elliptical-oblong,* 10-*costate,* glabrous; *ribs prominent, obtuse.—Jacq. Ht. Schœnbr.* 3. *t.* 314.—A shrub; leaves leathery, somewhat shining, turning brown by being dried; male flowers $2'''$–$3'''$ long; fruit-bearing calyx black, $4'''$ long, $2'''$ thick.—Hab. Jamaica!, *Al., March;* [Cuba!, S. Barthélemi, Brazil].

4. NEEA, *R. P.*

Calyx 5-toothed. *Stamens* 6–8 (5–10), included. *Stigma* simple, pointed. *Pericarp* included within the baccate calyx-tube. *Embryo* convolutive.—Trees *or* shrubs: *habit of* Pisonia.

The peculiarity of this genus, which had hitherto been confined to the southern continent, relies not only, as Choisy supposed, on the included stamens, but on the simple style, and the more involute cotyledons: in the baccate species of *Pisonia* the cotyledons approach this structure.

11. **N. jamaicensis,** *Gr.* (*n. sp.*). Glabrous; leaves oblong or elliptical-oblong, pointed; cymes terminal, divaricated, compound: flowers pedicellate; *calyx broad-campanulate, with blunt, erect teeth;* fruit-bearing calyx-tube ellipsoidal, delicately costate.—A tree; leaves $5''$–$8''$ long, $2''$–$2\frac{1}{4}''$ broad, rounded at the base, archnerved, with the primary veins distant, mostly opposite: petiole $4'''$–$6'''$ long; cyme stalked (about $3''$ diam.), trichotomous in the primary, usually alternate in the subsequent divisions: pedicels $1'''$ long, pubescent with a minute, rufous down; involucre formed of 3–2 minute bracts; calyx $2'''$–$3'''$ long, $2'''$ broad at the rounded base, not constricted at the mouth (while in the allied *N. spectabilis,* Chois. Berlin Abh. 1832, t. 3, it is constricted): teeth originally $\frac{1}{2}'''$ long, but at length sometimes separated by rupture to the middle of the tube; stamens unequal, 8, the longest equalling the included style; style linear, acute; fruit-bearing calyx-tube $5'''$–$6'''$ long, $2'''$–$3'''$ broad, crowned by the erect teeth: longitudinal ribs filiform, about 10 stronger; cotyledons convolutive around the reduced central perisperm.—Hab. Jamaica!, discovered by *Dr. Alexander* near Brownstown.

XXV. MALVACEÆ.

Calyx mostly valvate. *Stamens* monadelphous, indefinite (–10) by division, the primordials being 5, opposite to the petals and connate with their claws: anthers unilocular, with the pollen hispid. *Pistil* syncarpous. *Embryo* curved: endosperm thin.—Leaves *alternate, palmatinerved, stipulate:* down *usually stellate.*

All *Malvaceæ* yield a bland mucilage, and are largely used as emollients (*e.g. Abelmoschus, Malachra*). A far more important product of the Order is their fibre, which in Cotton (*Gossypium*) consists of the testa-hairs, while in many other *Malvaceæ* the fibrous layer of the bark is employed: thus *Paritium* (Mahoc, Cuba-bast), *Sida pyramidata, Abutilon elatum, Hibiscus clypeatus, Malachra, Pavonia typhalea,* and *P. racemosa,* are remarkable fibre-plants of the West Indies. A yellow dye is obtained from the unripe fruit of *Thespesia.*

TRIBE I. *MALVEÆ.—Carpels as many as the stigmas, usually at length separating from the central axis. Column antheriferous at the summit.*—The West Indian genera have capitate stigmas (*Sideæ*).

1. MALVASTRUM, *As. Gr.*

Carpids 20–5, uniovulate, curved, and encircling a central torus, at length separating from the same. *Radicle* inferior.—Involucel 3–1-*leaved, or obsolete.* Herbs.

1. **M. spicatum,** *Gr.* (*Pl. Carib.*). Suffrutescent, pubescent or canescent; leaves deltoid or ovate, pointed, crenate-serrate above the base; *flowers spicate:* spikes oblong, or axillary ones reduced; involucral leaves 3, lanceolate, equalling the calyx; calyx-lobes ovate or ovate-lanceolate, pointed, as long as the tube or a little longer; petals orange-coloured, obcordate, shortly exserted; *carpids* about 15, *awnless,* glabrous and pubescent at the inflexed top, flat on the back.—*Cav. Diss. t.* 20. *f.* 4. *t.* 138. *f.* 3.—Malva, *L.* M. americana, *Rich. Cub.* (*non alior.*). M. polystachya, *Cav.*—Erect and branched, usually 2′–3′ high, but sometimes shrubby and 6′–7′ high: leaves usually pale-green, or canescent chiefly beneath: down soft.—HAB. Jamaica!, all collectors, common, to Antigua!, *Nichols.;* and Trinidad!, *Lockh.;* [Texas!, Cuba! to Brazil!, Cape Verde Islands!, East Indies!, New Holland!].

2. **M. tricuspidatum,** *As. Gr.* Suffrutescent, substrigose; leaves ovate-lanceolate or rhomboid-lanceolate, serrate; *flowers axillary,* fascicled or solitary, shortly stalked; involucel-leaves 3, linear, at length exceeded by the calyx, or obsolete; calyx-lobes ovate, pointed, as long as the tube; petals yellow, obcordate, shortly exserted; *carpids* 10 or more, *tricuspidate* (one awn at the inflexed top, two on the edge of the back), hispid above, somewhat channelled on the back.—*Cav. Diss. t.* 22. *f.* 2.—Malva. *Ait.* M. americana, *L. et Cav.* M. coromandeliana, *Sw.* M. domingensis, *Spr.*—Stem 1′–1½′, with appressed hairs: leaves green; superior flowers sometimes approximate and subspicate.—HAB. Jamaica!, *Bancr., Dist., Wils.*, common, to Trinidad!, *Cr.;* [Florida, Texas!, California!, Cuba!, and Mexico! to Brazil!, and Peru!, Madeira!, Canary Islands!, East Indies!].

2. MODIOLA, *Mch.*

Carpids 20–14, biovulate, separating from each other and from the central torus, birostrate and dehiscent between the beaks. *Seeds* separated by a transverse dissepiment: radicle inferior. *Stamens* 10–20.—Involucel 3-*leaved, persistent.* Herbs.

3. **M. caroliniana,** *G. Don.* Annual, hirsute; leaves palmatifid and toothed; pedicels axillary, exceeding the petiole; petals red, a little longer than the calyx; *carpids hispid.*—*Cav. Diss. t.* 16. *f.* 3; *As. Gr. Gen. Bor. Amer. t.* 128.—Malva, *L.* M. prostrata, *Cav., Macfad.!* M. eriocarpa, *DC.*—Diffuse or prostrate; petals 3‴ long.—HAB. Jamaica!, *Macf.*, sparingly on the hills; [Virginia to Texas!, Mexico!, Chili!, Juan Fernandez!, Montevideo!, Buenos Ayres!].

3. SPHÆRALCEA, *St. Hil.*

Carpids 24–12, 3–2-ovulate, tardily separating from the central torus, dehiscent above and at length in the dorsal line. *Radicle* inferior in the inferior, superior in the superior seeds.—Involucel 3–2-*leaved, deciduous.*

4. **S. abutiloides,** *Endl.* Shrubby, tomentose; leaves roundish, lobed-angular, serrate; peduncles axillary, 5–1-flowered, superior corymbose; involucel 3-leaved; calyx 5-fid, twice exceeded by the rose-coloured petals; carpids 2–3-seeded, blunt, membranaceous.—*Dill. Elth. t.* 1; *Jacq. Ht. Schœnbr.* 3. *t.* 293; *Bot. Mag. t.* 2544.—Malva, *L.* Phymosia, *Desv.*—A high shrub: my diagnosis is taken from the figures.—HAB. Bahamas, Providence,

on rocks (*Dill.*): a greenhouse plant, introduced by Catesby, who collected the seeds. Indigenous specimens have not yet been examined.

4*. ANODA, *Cav.*

Carpids 10–20, uniovulate, indehiscent, depressed, with the beak or apex pointed inwards. *Radicle* superior.—Involucel 0. Calyx *at length spreading.* Herbs.

5*. **A. hastata,** *Cav.* Annual, pilose or glabrescent; *leaves hastate* or lobed at the base; pedicels axillary, solitary, exceeding the leaves; calyx profoundly 5-fid: lobes ovate, pointed; petals usually blue, three times the length of the calyx; *carpids long-beaked.—Cav. Diss. t.* 11. *f.* 2; *As. Gr. Gen. Bor. Amer. t.* 124.—Hab. Naturalized in Jamaica!, *Bancr.*; [indigenous on the continent: New Mexico, Mexico! to Peru!].

5. SIDA, *L.*

Carpids 5–15, uniovulate, dehiscent towards the apex or indehiscent, tardily separating from the central torus. *Radicle* superior.—Involucel 0 (*or obsolete*). Suffrutescent herbs (*usually flowering from the first year, and consequently in that state appearing annual*), or shrubs.

Sect. 1. Malvinda.—*Calyx* 5-*fid or* 5-*toothed: tube usually angular. Carpids birostrate or bimucronate at the dehiscent apex (rarely uniaristate or awnless).*

† *Leaves tapering or rounded at the base.*

* *Flowers shortly stalked or subsessile: pedicel not jointed above the middle.*

6. **S. carpinifolia,** *L.* Suffrutescent; leaves elliptical-lanceolate, serrate above the base; stipules linear, equalling the petioles and the pedicels; *flowers* axillary, *shortly stalked; calyx* 5-fid, exceeded by the *yellow petals; carpids* 8–10, reticulated, birostrate or bimucronate, glabrous, hairy towards and upon the beaks.—*Cav. Diss. t.* 2. *f.* 3, *t.* 3. *f.* 10, 11, *t.* 134. *f.* 1.—S. acuta, *Burm.* S. stipulata, *Cav.* S. glabra, *Nutt.* S. Berteriana, *Balb.* S. Balbisiana, *DC.* S. brachypetala, *DC.* S. trivialis, *Macf.!* S. lanceolata, *Rich. Cub.* S. obtusa, *Rich.*—Habit of *Malvastrum tricuspidatum.* The great variability of this species, by which we are justified in uniting these and other synonyms, affects chiefly the following particulars: down appressed, stellate, or wanting; leaves varying from rhomboid-lanceolate to elliptic, acuminate or bluntish, quite glabrous or stellate-pubescent beneath, or strigose upon the ribs; stipules lanceolate or setaceous, variable in length; flowers usually fascicled, or solitary; the pedicels shorter than the petiole, or twice its length; carpids glabrous, or with a short down (chiefly above), their awns $3'''$–$\frac{1}{2}'''$ long, erect, or at length incurved.

α. Carpids birostrate: beaks erect (of various length, but usually exceeding the diameter of the carpid).

β. brevicuspidata. Carpids bimucronate: beaks very short.—To this form *S. stipulata,* Cav., *S. acuta,* Burm., and the greater part of the above synonyms belong; it was well described by Macfadyen (*S. trivialis,* ej.!).

Hab. Jamaica!, all collectors, common, S. Kitts!, *Els.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Schach, Lockh., Cr.*; [Florida!, Bermudas!, Cuba! and Guatemala! to New Granada! and Brazil!, tropical Africa!, Canary Islands!, East Indies!].

7. **S. glomerata,** *Cav.* Suffrutescent, downy chiefly by *simple hairs;* leaves lanceolate, serrate above the base; *stipules* large, obliquely lanceolate, acuminate, nervose, *twice the length of the petiole; flowers* axillary, *subsessile,* glomerate or solitary; calyx 5-fid, equalling the *yellow petals; carpids* 5, reticulated, glabrous, shortly bicuspidate: valves at length subulate, divergent.—*Cav. Diss. t.* 2. *f.* 6.—In habit approaching the preceding. Stem usually with a few or no branches, $1'$–$2'$ high, either villous with simple hairs exceeding the stellate down, or glabrescent; leaves with a soft down, or scattered, simple, spreading hairs on both sides; carpids smaller, petioles shorter, and leaves narrower than in *S. carpinifolia.*—Hab. Jamaica!, *Al.*; Trinidad!, *Sieb., Lockh., Cr.*; [Mexico!, Panama!, Venezuela!, Guiana!, Brazil!].

8. **S. ciliaris,** *L.* Procumbent, diffuse: down scattered, appressed, chiefly stellate;

leaves short, oblong, nearly *of the same length as the petiole*, serrate above the middle; stipules linear or spathulate, ciliate, equalling the petiole; *flowers* axillary, *subsessile*, glomerate or solitary; calyx 5-fid, equalling the red or yellow petals, which are blotched at the base; *carpids* 5–8, *tubercled*, glabrous, shortly bicuspidate.—*Sl. t.* 137. *f.* 2; *Cav. Diss. t.* 3. *f.* 9.—S. involucrata, *Rich. Cub.*: a form with pointed leaves, which usually are blunt at both ends.—Calyx-tube at length not angular.—HAB. Jamaica!, *M'Nab, Al.*; [Cuba! to Guadeloupe! and Venezuela!].

9. **S. jamaicensis,** *L.* Suffrutescent, *velvety* with stellate down; *leaves ovate, blunt*, serrate-crenate above the base; stipules setaceous, equalling the petiole; flowers axillary, shortly stalked or subsessile, subglomerate or solitary; calyx 5-fid, equalling the *white petals; carpids* 5, reticulated, bimucronate, glabrous, and with a short down below.—*Cav. Diss. t.* 2. *f.* 5.—Easily recognized from all the preceding species by its velvety leaves.—HAB. Jamaica!, *Bancr., Al., March*; [S. Thomas!].

** *Pedicels jointed above the middle, of various length.*

10. **S. spinosa,** *L.* Suffrutescent or shrubby, minutely pubescent; leaves oblong-lanceolate or lanceolate-linear, serrate above the base, pale beneath: *base of the petiole with a spinescent tubercle on the back;* flowers axillary, subsolitary: *pedicel* jointed above the middle, nearly *equalling the petiole;* calyx 5-fid, shortly exceeded by the *pale-yellow petals; carpids* 5–8, birostrate or bidentate, glabrous, hairy above.—*Cav. Diss. t.* 1. *f.* 9.—S. alba, *L., ex specim. W. Arn.!* (*non Cav.*). S. minor, *Macf.!* S. affinis, *Schmidt!* (Cape Verde).—This species is equally variable with *S. carpinifolia*, L., and perhaps still more so, chiefly distinguished from it by having jointed pedicels and by the little spine of the petiole: in most cases it may also be recognized by the stellate down of the calyx, the stem, and the under side of the leaves. The variability affects the shape of the leaves, the length of the petioles and pedicels, and the development of the carpid-beaks, which are in most of the forms half as long as the carpid itself, but sometimes longer and hispid.

α. Leaves oblong-lanceolate, tapering from the base towards the bluntish top, glabrescent above; carpids 5, shortly birostrate.—The above synonyms belong to this form.

β. *angustifolia*, Lam. Leaves lanceolate-linear, or lanceolate, acuminate; carpids 5–8: beaks of various length.—*Cav. Diss. t.* 2. *f.* 2.—S. erecta, *Macf.!*: a form with the pedicels equalling the petiole, and long-beaked carpids.

HAB. Jamaica! (*α* et *β*), *Bancr., M'Nab, Macf., Pd., Wils.*; Caribbean Islands, *e.g.* Nevis; [Pennsylvania! to Texas!, Mexico! to Brazil! and Montevideo!, Senegambia!, Cape Verde Islands, Mascate!, Mauritius!, East Indies!].

11. **S. rhombifolia,** *L.* Shrubby or suffrutescent, minutely pubescent or glabrescent; leaves rhomboid-lanceolate or lanceolate, serrate above the base, pale beneath; flowers axillary, subsolitary: *pedicel* jointed above the middle, elongated, nearly *equalling the leaf;* calyx 5-fid, exceeded by the *pale-yellow petals*, which are blotched with red at the base; *carpids* 8–10 (–5), birostrate, bidentate or unirostrate, glabrous, hairy on the beaks.—*Cav. Diss. t.* 3. *f.* 4, 8, 12, *t.* 131. *f.* 2.—S. retusa, *Cav.* S. alba, *Cav.*—Constantly distinguished from the preceding series by the pedicels nearly 1″ long. The variability of this species affects the growth of the stem (either suffrutescent, 1′ high, or shrubby and branched, 1′–3′ high), the down (usually disappearing on the upper side of the leaves), the shape of the leaves (from rhomboid-lanceolate and ovate-lanceolate to elliptical-lanceolate, lanceolate, and linear-oblong), and the remarkable discrepancies in the carpids, which I formerly believed to be characteristic of several species (*Pl. Carib. p.* 31). Whether the colour of the petals, as mentioned above, is constant I have no means of ascertaining. Though I never saw intermediate forms between the birostrate and unirostrate carpids, the latter being perhaps the consequence of casual symphysis, as there are no other constant differences, and especially as among the allied species the carpid-beaks give no specific characters, I adopt now only a single species with three varieties, of which *β* and *γ* are joined by intermediate specimens.

[*α*. *Linnæana* (*ex syn. Sl.*). Carpids glabrous, with a single beak of various length.—S. rhombifolia, *Wb. Canar., Rich. Cub.* S. maderensis, *Lowe.* S. carpinifolia, *Bourg. Pl. Canar.!* (*non Wb.*).—Canary Islands!, Cuba!, Mexico!, Pacific islands!, East Indies!]

β. *canariensis*, W. Carpids bidentate: teeth very short, glabrous.—S. rhomboidea, *Roxb.* S. rhombifolia, *Bourg. Pl. Canar.!*—S. rhombifolia, *β*, *As. Gr.*, who combines with

this variety a form in which the carpid-teeth are completely abortive. A synonym of this is *S. philippica*, DC. ap. W. Arn.!, not yet observed in America.

γ. *retusa*, L. Carpids biaristate: awns long, hairy.—S. retusa, *W. Arn.!* S. hondensis, *Kth. et Gr.* (*in Pl. Carib.*). S. ruderata, *Macf.*—This is the common form in the West Indies and other parts of America, while β has only been sent from Trinidad.

HAB. Jamaica!, *Pd.*, *Al.*, *March;* S. Kitts!, Dominica!, Trinidad! (β and γ), *Lockh.*, *Schach*, common; [γ: South Carolina!, Florida!, Mexico! to Brazil!, Peru!, and Buenos Ayres!, Niger!, Senegambia!, Canary and Azoric Islands!, East Indies!].

†† *Leaves cordate at the base.*

* *Calyx-tube 5-angular: lobes subulate.*

12. **S. urens,** *L.* Suffrutescent, *hirsute;* hairs simple and stellate (the latter chiefly on the under side of the leaves); leaves cordate, pointed or acuminate, serrate, long-petioled; *flowers* axillary and terminal, *shortly stalked, fascicled* (sometimes subsolitary, and with an accessory, exserted branch); calyx 5-fid, hirsute: lobes subulate, exceeded by or equalling the *yellow petals*, which are blotched with red at the base; *carpids* 5, *awnless*, edentate or bidentate, glabrous.—*Cav. Diss. t.* 2. *f.* 7, *t.* 1. *f.* 12.—S. verticillata, *Cav.*—Stem 1′–5′ high, trailing; calyx 3‴–4‴ long.—HAB. Jamaica!, all collectors, common among shrubs; Antigua!, *Nichols.;* Trinidad!, *Lockh.*, *Cr.*; [Cuba! to Peru!, and Brazil, as far south as Porto Alegre!, Niger!, Madagascar!].

13. **S. supina,** *L'Hér.* Procumbent, diffuse, pilose or glabrescent: *hairs mostly simple; leaves cordate-triangular* or cordate-ovate, crenate-serrate: petiole nearly equalling the limb; flowers axillary: *pedicels filiform*, usually *solitary*, jointed, equalling or exceeding the elongated petiole; calyx 5-fid: lobes subulate, exceeded by or equalling the *yellow petals; carpids* 5, *birostrate: beaks* hairy, *as long as the carpid.*—*L'Hér. Stirp. t.* 52 (*a.* 1785); *Cav. Diss. t.* 1. *f.* 8, *t.* 196. *f.* 2; *Bot. Miscel.* 2. *t.* 89.—S. pilosa, *Cav.* (published in the same year, but restricted afterwards to the hairy form). S. ovata, *Cav.:* the glabrescent form. S. procumbens, *Sw.!* S. Dombeyana, *DC.* (*ex Bot. Misc.*): petals blotched with red at the base.—Stem herbaceous; leaves acute or bluntish, not acuminate, sometimes quite glabrous; calyx 2‴ long.—HAB. Caribbean Islands; [Haiti and Mexico! to Venezuela! and Lima!, Galapagos Islands!].

14. **S. ulmifolia,** *Cav.* Suffrutescent, glabrescent: *hairs simple; leaves cordate, acuminate*, crenate-serrate, long-petioled; *flowers* axillary and terminal, *subgeminate with accessory branches:* the interior pedicel short, or (if this is abortive) the second elongated and jointed above the middle, the accessory branch nearly equalling the leaf; calyx 5-fid, minutely pubescent: lobes subulate, nearly equalling the *orange-yellow petals; carpids* 5, *biaristate*, glabrous: the awns minutely hairy.—*Cav. Diss. t.* 2. *f.* 4; *L'Hér. Stirp. t.* 51: a form with the leaves emarginate at the tapering point.—S. arguta, *Sw.!* S. truncata, *L'Hér.* S. emarginata, *W.*—Stem erect, trailing; leaves more hairy than the stem, with a long tapering point; calyx 3‴ long.—The down of the leaves is nowhere stellate; but I possess a pilose form from Bogotá, in which there are minute stellate hairs on the stem, much exceeded by long, simple hairs.—HAB. Jamaica!, *Al.*, *March;* [Haiti, S. Eustache!, New Granada!, Guayaquil!].

15. **S. nervosa,** *DC.* Suffrutescent, glandular and *velvety:* down stellate; leaves cordate, pointed, crenate-serrate, velvety, chiefly beneath, long-petioled: petiole nearly equalling the limb; flowers axillary and terminal, several in the axil, with an accessory, exserted branch: *pedicels elongated*, jointed above the middle; *calyx broadly* 5-*toothed*, exceeded by the *yellow petals:* teeth 3-angular-subulate, half the length of the tube; *carpids* 5, *shortly bidentate.*—S. glutinosa, *Rich. Cub.*—Stem erect; upper leaves reduced, and flowers therefore arranged in a racemiform panicle; calyx slightly pubescent, spreading, 2‴ long.—HAB. Jamaica!, *Macf.*, *Dist.*, *Al.*, *March*, common; [Cuba!, Brazil!].

** *Calyx-tube terete.*

16. **S. pyramidata,** *Cav.* Suffrutescent, *glabrescent:* down minute, stellate; leaves cordate, pointleted, crenate-serrate, glabrous, large: petiole nearly equalling the limb; *flowers paniculate:* primary branches racemose, partly axillary, secondary corymbose, 3–7-flowered:

pedicels jointed; *calyx* 5-fid, puberulous, *half the length of the yellow petals: lobes shortly subulate;* carpids 6–5, shortly bidentate, pubescent.—*Cav. Diss. t.* 1. *f.* 12, *t.* 194. *f.* 1.—S. dumosa, *Sw.!* Stem erect, high, slender; leaves much larger than in all the preceding species (3″–4″ long, 3″ broad); branches of the panicle spreading; calyx 2‴ long, at length spreading: tube at length not angular.—HAB. Jamaica!, *Wright, Macf., M'Nab, Wils., Al., March;* [Cuba!, Haiti, Portorico].

17. **S. paniculata,** *L.* Suffrutescent, *velvety;* down stellate; leaves subcordate-ovate, pointed, irregularly crenate-serrate: petiole shorter than the limb; *flowers paniculate* or axillary, racemose: primary branches racemose, secondary corymbose: pedicels usually capillary, elongated, glabrous; *calyx* 5-fid, *exceeded by the crimson petals: lobes rounded,* bluntish, puberulous; carpids 5, shortly bidentate, glabrescent.—*Cav. Diss. t.* 1. *f.* 7. *t.* 12. *f.* 5; *Jacq. Ic. Rar. t.* 136; *Kth. Nov. Gen. t.* 473.—S. capillaris, *Cav.* S. atrosanguinea, *Jacq.* S. floribunda, *Kth.*—Stem erect, with a spreading panicle; leaves 2″ long, superior decrescent; calyx 1‴ long, at length connivent, somewhat exceeded by the carpid-teeth: tube terete.—HAB. Jamaica!, *Pd.,* on calcareous rocks; [Cuba, Mexico!, Venezuela!, New Granada!, Guayaquil!, Peru!, Brazil!].

*** *Calyx-tube* 5–10-*angular: lobes large, deltoid.*

18. **S. cordifolia,** *L.* Suffrutescent, *velvety-tomentose:* down stellate; leaves subcordate or cordate, pointed or blunt, crenate-serrate, long-petioled; *flowers* mostly *axillary:* solitary pedicels nearly equalling the petiole, usually with an accessory glomerule or branch (or all flowers glomerate); *calyx* 10-*angled* at the tube, tomentose, 5-fid: lobes deltoid, at length connivent; *petals* exserted, *tawny-yellow;* carpids 10–12, truncate and hairy at the top, either biaristate or bidentate.—*Dill. Elth. t.* 171; *Sl. t.* 136. *f.* 2; *Cav. Diss. t.* 3. *f.* 2, 3, 6, 7, *t.* 13. *f.* 1, *t.* 194. *f.* 2.—S. althæifolia, *Sw.!:* the form with short carpid-awns. S. multiflora, *Cav.* S. micans, *Cav.* S. rotundifolia, *Cav.* S. herbacea, *Cav.*—A widely diffused and very variable species, easily distinguished by the 10 obtuse keels of the calyx-tube, its size (4‴ broad), and the velvety whitish tomentum of the whole plant. The variability affects chiefly the shape of the leaves (which however are not often deeply cordate), the wool more or less tomentose, the accessory branches or flowers in the axils, and the development of the hairy carpid-awns.

[α. Carpid-awns elongated, exserted, with downward-pointing hairs.—This form is the common East Indian one, but the same occurs in South America: Guiana!, Brazil!: S. hamulosa, *Salzm.!,* Peru!, and was found by *Sieber* in Martinique!, *Hb. Martin.* 170.]

β. *althæifolia,* Sw.! Carpid-awns shorter than the carpid, or reduced so much as to form small teeth on the angle of its truncate top.—S. truncata, *Cav.* S. mollis, *Hb. Bks.*—From the latter, bidentate form, which according to my materials is the commonest in the West Indies, there is a gradual transition to *S. althæifolia,* Sw.

γ. *conferta,* Lk. Flowers (by abortion of the longer pedicel) all glomerate; carpids glabrous, shortly bidentate.—This is a Jamaica form: it has besides deeply cordate, pointleted, less whitish leaves, and was considered by Dr. Alexander as a peculiar species, which however among so many variations I do not venture to acknowledge as such. It may prove to be identical with *S. pellita,* Kth.

HAB. Jamaica! (β and γ), all collectors, common in dry pastures; Dominica, *Imr.;* S. Lucia!, *Anders.;* [Cuba! and Mexico to Brazil! and Peru!, Cape Verde Islands!, Niger!, Nubia! (α), Port Natal!, Cape: *S. velutina, E. Mey.!;* East Indies!, Canton!].

Sect. 2. STENINDA.—*Calyx* 5-*fid: tube subterete. Carpids bluntish, indehiscent.* —Flowers in terminal corymbs. Leaves quite entire.

19. **S. linifolia,** *Juss.* Suffrutescent, hirsute (or glabrescent): hairs chiefly simple; *leaves linear,* elongated, *quite entire;* stipules setaceous, equalling the petiole; corymbs few-flowered, terminal; calyx-lobes deltoid, exceeded by the *white petals; carpids* 5–8, *edentate, indehiscent.*—*Cav. Diss. t.* 2. *f.* 1.—Stem erect, virgate, usually branched above; leaves 2″–3″ long, 2‴–3‴ broad; calyx 2‴–3‴ long, cupulate, at length connivent, including the glabrous carpids.—HAB. Trinidad!, *Cr.;* [Haiti!, Panama!, New Granada!, Guiana!, Brazil!, Peru!, Niger!, Feejee Islands!].

Sect. 3. WISSADA.—*Calyx 5-fid: tube terete. Carpids separated from the dehiscent bifid beak by a transverse callous ring. Seed pubescent above.*—Panicle lax, terminal. Leaves quite entire.

In a natural arrangement of the *Malvaceæ*, where the distinction of a uniovulate and pluriovulate ovary might be given up as generic characters, the species answering to the above character were to be referred to *Wissadula*, as Planchon proposed indeed in the Hookerian herbarium. But though the habit agrees exactly with that of *Wissadula*, that genus being intermediate between *Sida* and *Abutilon* would then present no other character but the annular ring or rudiment of a transverse dissepiment in its carpids (more or less developed in different forms), and it would perhaps not be advisable to consider this as a sufficient generic character. I therefore still retain *Wissada* in *Sida*, several species of which it approaches in habit, as for instance *S. ulmifolia*, Cav.

20. **S. divergens,** *Benth.!* Suffrutescent, pubescent with stellate down; *leaves cordate*, acuminate, *quite entire*, glabrous above, *tomentose beneath*, shortly petioled; panicle terminal, spreading; branches distant, few-flowered: pedicels racemose, filiform, cernuous; calyx-lobes ovate, pointed; *petals yellow*, twice the length of the calyx; carpids 5, beaked: beak bifid.—S. periplocifolia, *Macf.!* (*non alior. et exclus. synon.*).—Stem erect, 3′–4′ high; leaves gradually tapering from the cordate base, bluntish at the top: length 2–3 times exceeding their breadth; calyx 1‴ long; hollow carpid-beak triangular, mucronate, half the length of the seminiferous cell: seed angular above, pubescent at the angles.—HAB. Jamaica!, *Macf.*, *Dist.*, *Pd.*, *Al.*, common in the Lowlands; [Guayaquil!].

6. ABUTILON, *T.*

Carpids 5, indefinite, 3–9-ovulate, dehiscent above by the ventral suture, or at the same time by the dorsal line above or to the base. *Radicle* superior in the inferior seeds.—Involucel 0.

Sect. 1. WISSADULA.—*Carpids 5, biarticulated and constricted by a transverse callous ring or incomplete dissepiment, not inflated, dehiscent above: upper portion (corresponding with the hollow beak of* Wissada*) biovulate, lower uniovulate.*

Presl, when restoring Medicus's genus *Wissadula*, figured in his tables a complete dissepiment, separating the upper carpid-cell from the lower one, but in his descriptive character he mentions more correctly an incomplete septum, which is identical with the annular rings of *Wissada*: thus a gradual passage exists from *Abutilon* to *Sida* by these sections, as to *Gaya* by the section of *Gayopsis*.

21. **A. periplocifolium,** *G. Don.* Suffrutescent or shrubby, pubescent or glabrescent; *leaves* cordate, pointleted or acuminate, *quite entire* or obsoletely crenate, usually glabrescent above, and white with stellate down beneath; *flowers paniculate*: branches distant, spreading, terminated by few-flowered corymbs (or single-flowered), inferior axillary: pedicels elongated, jointed below the top; calyx small, 5-fid: lobes deltoid; petals pale-yellow, 2–3 times exceeding the calyx; *carpids* 5, *divergent*, ovoid, constricted below the middle, *pointed* or mucronate, 3–4 *times exceeding the calyx*; seeds pubescent.—*Dill. Elth. t.* 3; *Sl. t.* 139. *f.* 3; *Cav. Diss. t.* 5. *f.* 2, 3; *L'Hér. Stirp.* 1. *t.* 58.—Sida, *L.*: *ex. synon. Dill.*, *Sw.*, *DC.* (*α et β* caribæa). S. excelsior, *Cav.* S. hernandioides, *L'Hér.* S. heterosperma, *Hochst.!* (*in Kotschy, Pl. Nub.* = Wissadula, *ej. in Pl. Abyss.*). Wissadula excelsior, *Prl.* W. rostrata, *Benth.!* Abutilon parviflorum, *St. Hil.* A. laxiflorum, *Guillem. Perrot.*—Stem usually 6′–10′ high; calyx 1‴–2‴ long.—The species is very variable: in the shape of the leaves (deeply cordate-roundish, cordate-ovate, subcordate and tapering), the down, the terminal panicle more or less developed, the length of the carpid-point, which sometimes is deficient. All my specimens have small flowers, but if their size is subject to variation, as in other species, some more synonyms might be added, namely, *Sida nudiflora*, L'Hér. (l. c. t. 59), and *S. stellata*, Cav. (Diss. t. 5. f. 4). *S. Luciana*, DC., seems also to be a form with shorter peduncles.

α. Leaves glabrous above, white beneath; carpids glabrescent.

β. albicans, covered entirely with minute whitish down; leaves pubescent, greenish above, white beneath; carpids pubescent.

Hab. Jamaica !, *Macf.*, *Al.*, *March*, in dry situations (confounded in Macfadyen's Flora with *Sida divergens*); Trinidad ! (β), *Cr.*; [Cuba !, New Granada !, Brazil !, from the Equator to Minas Geraes, Peru, Cape Verde Islands !, Senegambia !, Nubia !, Abyssinia !].

Sect. 2. Anasida.—*Carpids* 5–10, *not inflated nor constricted, birostrate,* 2–3-*spermous, dehiscent between the beaks and the dorsal line.*

22. **A. umbellatum,** *Swt.* Suffrutescent or shrubby, scabrous or pubescent with minute down; *leaves* cordate-rounded, pointleted, *crenate,* often obsoletely 3-lobed; pedicels jointed near the top, umbellate or corymbose: *peduncles* axillary or *racemose* along the stem and branches; *calyx pilose,* 5-fid: lobes subulate; petals yellow, twice the length of the calyx; *carpids* 5, ovate, hirsute, nearly equalling the appressed calyx or shortly exserted, *twice as long as the double aristiform beak; seeds muricate,* glabrous.—*Jacq. Ht. Vind.* 1. *t.* 56; *Cav. Diss. t.* 6. *f.* 3, *t.* 129. *f.* 2: probably by mistake, there are in this figure ten styles, of which I never saw more than five.—Sida, *L.*—An erect, branched herb or low shrub; calyx at length globose, 4‴ diam., when in flower about 2‴ long and 3‴–4‴ broad. —Hab. Jamaica !, *Al.*; [S. Thomas !].

Sect. 3. Belœre.—*Carpids* 5–∞, *coriaceous, compressed, pointed or unirostrate or blunt at the divergent apex, dehiscent along the ventral suture, and at length along the dorsal line.*—The carpid-beak may become divided by dorsal dehiscence, but is never bifid in the early state, as in *Anasida.*

23. **A. indicum,** *G. Don.* Suffruticose or shrubby, velvety-tomentose, and usually with a pilose down on the stem; leaves cordate-rounded, pointed, unequally toothed; pedicels axillary, subsolitary, jointed below the top, nearly equalling the petiole; *calyx* 5-*fid:* lobes ovate, pointed: *tube not plicate; petals yellow,* twice exceeding the calyx; *carpids* 12–30, *mucronate,* 3–9-seeded, *equalling* or shortly exceeding *the excrescent calyx; seeds warty, glabrous.*—*Cav. Diss. t.* 7. *f.* 2, 5, 6, 10, *t.* 128. *f.* 1, 2, *t.* 129. *f.* 1.—Sida indica, americana, asiatica, *L.* S. populifolia, hirta, *Lam.* S. pubescens, *Cav.* S. abutiloides, *Macf.* ! (*non Jacq.*). Abut. indicum, asiaticum, hirtum, *G. Don.* A. graveolens, *W. Arn.* ! —Stem 2′–10′ high; leaves white beneath with velvety down; calyx 4‴–5‴ long; petals orange-coloured, with a dark spot at the base.—This species is very variable: in the more or less developed spreading hairs of the stem and petioles, the leaf-teeth (sometimes passing into lobes), the rounded or more pointed top of the carpids, the length of their terminal mucro (usually 1‴ long), and the hairs covering them being short or elongated.

α. Carpids covered with short hairs, at length glabrescent.
β. *asiaticum.* Carpids hirsute.—Sida asiatica, *L.*
γ. *hirtum.* Stem densely pilose.—Abut. hirtum, *Gs.* A. graveolens, *W. A.*

Hab. Jamaica !, *Dist.*, *Bancr.*, *Macf.*, *Wils.*, common in dry situations (α, γ); Antigua !, *Nichols.* (β); Dominica !, *Imr.* (α); S. Vincent !, *Guild.* (α); Barbadoes ! (α, β); Trinidad !, *Schach* (α); [Cuba, Panama !; Niger, Nubia ! to Mozambique !; East Indies !].

24. **A. pedunculare,** *Kth.* Suffruticose, velvety-tomentose, and with a pilose down on the stem; leaves cordate-rounded, pointed, crenate; pedicels mostly axillary, jointed below the top, exceeding or equalling the petiole; *calyx deeply* 5-*fid: lobes subcordate and reduplicative at the base,* subulate, scarcely twice as long as the *tube,* which is *plicate* at the top of the sutures; *petals rose-coloured,* not much exceeding the calyx: *carpids* 12–20, shortly exceeding the calyx, villous, *mucronate,* 3–9-seeded; *seeds warty and with scattered down.*—Sida, *DC.*, *Macf.* !—Nearly allied to the preceding. Stem 2′–8′ high; leaves velvety on both sides, white beneath; calyx 6‴–8‴ long; petals about 10‴ long.—Hab. Jamaica !, *Bancr.*, *Macf.*, *Al.*, *March*; [New Granada !, equatorial Brazil].

25. **A. permolle,** *G. Don.* Shrubby; leaves velvety, cordate-rounded, pointleted, crenate; flowers shortly racemose and axillary: pedicels jointed below the top, about twice the length of the flower; *calyx* deeply 5-fid, and at length 5-*partite:* lobes ovate, at length subcordate, pointed: *tube not plicate; petals yellow,* twice the length of the calyx; *carpids* 7–10, shortly exceeding the calyx, villous, *pointed, and mucronate,* 3-seeded; *seeds warty, glabrous.*—Sida, *W.*—Leaves velvety on both sides, whitish beneath, those of the inflorescence mostly reduced; pedicels 6‴–8‴ long; calyx, when flowering, 3‴–4‴ long; petals 6‴–8‴ long; carpids 4‴–5‴ long.—Hab. Bahama Islands !, *Swains.*; [Cuba !, Southern Florida].

26. **A. leiospermum,** *Gr.* Suffrutescent, velvety with *very minute down;* leaves cordate-rounded, pointed, unequally toothed or subtrilobed; pedicels axillary, solitary, jointed below the top, equalling or exceeding the petiole; *calyx* 5-*fid, and at length deeply* 5-*fid:* lobes ovate, pointleted, equalling the tube, and at length subcordate, then twice the length of the *tube,* which is *not plicate; petals yellow,* scarcely twice exceeding the calyx; *carpids* 12–20, *twice the length of the calyx,* villous, cuspidate, 3-seeded; *seeds polished, glabrous. Cav. Diss. t.* 14. *f.* 3.—Sida vesicaria, *Cav. exclus. descript. fruct.:* his figure represents exactly the habit of our plant (only the carpids are less pointleted), but his name is inapplicable, the carpids being formed as in *A. indicum.*—Leaves thin, scabrous, and pale-green above, glaucous-white beneath; calyx 4‴–5‴ long; petals variable in size, usually 6‴–7‴ long; carpids 8‴ long.—HAB. Jamaica!, *March.*

A. lignosum, Rich., is a nearly related species, stated to grow in Jamaica by Linnæus, but in later times only observed in Haiti and Cuba. From its figures it seems to be distinguished by a 5-partite calyx, with the segments broadly cordate, and, according to Richard's description, by warty seeds; its synonyms are *Lavatera americana,* L.; *Sida abutiloides,* Jacq. (Obs. 1. t. 7); *S. lignosa,* Cav. (Diss. t. 6. f. 2); *S. tricuspidata,* Cav. (*ib.* f. 5); and *S. crassifolia,* L'Hér. (Stirp. t. 60).

27. **A. elatum,** *Gr.* Shrubby, velvety-tomentose; leaves cordate-rounded, pointleted, crenate; *flowers paniculate:* inferior peduncles divided above, 3–7-flowered, lowest axillary, superior ones and pedicels racemose, jointed near the middle; *calyx* 5-*partite:* segments ovate, pointed; *petals orange-yellow,* subreflexed, twice as long as the calyx; *carpids* 8–10, *almost twice the length of the calyx,* villous, cuspidate or pointed, 3-seeded; *seeds polished, with a scattered down.*—Sida, *Macf.!*—A shrub, 6′–12′ high; leaves green above, white beneath; panicle spreading, pyramidal; calyx 3‴–4‴ long; petals and carpids 6‴ long.—HAB. Jamaica!, *Macf., Pd., Wils.,* in the south-eastern district of S. David's.

Sect. 4. ANODOPSIS.—*Carpids* 5–12, *membranaceous, subinflated, birostrate, bivalved to the base. Leaves usually* 3–5-*fid.*

The character is taken from *Sida vitifolia,* Cav., as I have not seen the fruit of the Jamaica species, which however is related in habit.

28*. **A. striatum,** *Dicks.* Shrubby, glabrous; *leaves* 3-*fid,* serrate above the cordate base: lobes pointed; pedicels axillary, solitary, not jointed, nearly equalling the leaf; calyx deeply 5-fid: lobes ovate-lanceolate, acuminate, twice the length of the tube; *petals orange-yellow* and *streaked with red,* twice exceeding the calyx, and exceeded by the styles; carpids 8 . . .—*Descr. in Bot. Reg. Misc.* 25. *p.* 39.—Calyx 8‴ long.—HAB. Naturalized in Jamaica!, *March;* [introduced from Brazil].

Sect. 5. GAYOPSIS.—*Carpids* 12–20, *membranaceous, inflated, rounded at the top, tardily separating and bivalved to the base,* 4–5-*seeded, or by abortion* 1-*seeded.*

Gaya, which this section approaches, is distinguished by the artificial character of uniovulate carpels, by their earlier separation, and by the free appendage in their cavity, which Presl compared erroneously with the spurious dissepiment of *Wissadula,* but which, as it proceeds from the carpid-base and developes a series of spinules on the outer margin (analogous to the sutural ones of *A. crispum*), seems nothing but the suture itself, becoming loosened by the formation of juxtasutural dehiscence. The West Indian *Gaya* has not yet been observed in the British Islands: this species is variable in the form of its leaves, and several synonyms must be reduced to it:

[*Gaya occidentalis,* Gr. Carpids about 30.—*Dill. Elth. t.* 6; *Plum. t.* 2; *Cav. Diss. t.* 4. *f.* 3, *t.* 8. *f.* 1.—Sida, *L.: ex ic. Dill.* (*Pl. Havanensis*). S. spicata, *Cav.* Gaya affinis, *Rich. Cub.*—Cuba!, Haiti, S. Barthélemi; Quito!]

29. **A. crispum,** *G. Don.* Suffrutescent, branched, velvety; leaves cordate-roundish, pointleted, crenate, *superior subsessile;* pedicels axillary, solitary, jointed below the top, nearly equalling the leaf; calyx deeply 5-fid: lobes ovate, pointed; *petals whitish,* exceeding the calyx; carpids about 12; *seeds polished,* obsoletely puberulous.—*Dill. Elth. t.* 5: *Plum. t.* 25; *Cav. Diss. t.* 7. *f.* 1, *t.* 135. *f.* 2; *As. Gr. Gen. Bor. Amer. t.* 126.—Sida, *L.* Bastardia, *St. Hil.*—Calyx 2‴, petals 3‴–4‴, carpids 4‴–6‴ long.

α. Carpids (6‴ long) 3(–1)-seeded, with minute scattered down, and longer, spreading, subspinescent hairs, chiefly on the sutures.

β. imberbe. Carpids (4‴ long) 4–3-seeded, puberulous, but without spinescent hairs.—*Rich. Cub. t.* 17.—Sida imberbis, *DC.* Abutilon trichodum, *Rich.*

Hab. S. Vincent!, *Guild.;* [New Mexico, Texas!, Cuba! and Mexico! to Venezuela!, East Indies!].

Sida filiformis, Jacq., of Martinique, is, according to its author, a distinct species, with inflated carpids, distinguished by its herbaceous, procumbent stem, and yellow flowers. It seems not to have been observed since, and Jacquin's description has been overlooked by subsequent authors.

7. BASTARDIA, *Kth.*

Carpids 5–∞, uniovulate, not separating from each other, loculicidal to the base: valves chartaceous. *Radicle* superior.—Involucel 0.

30. **B. viscosa,** *Kth.* Suffruticose, glandular and tomentose; leaves cordate, pointed, minutely toothed; pedicels axillary, nearly equalling the petiole; *calyx* 5-*fid: lobes ovate, pointed;* petals yellow, small; *capsule exceeding the calyx*, 5(–8)-celled, angular, rounded-umbilicate, *erostrate; seed pubescent.*—*Sl. t.* 139. *f.* 4; *L'Hér. Stirp. t.* 53 *bis; Cav. Diss. t.* 196. *f.* 1.—Sida, *L.* S. fœtida, *Cav.* S. retrofracta, *DC.*—Calyx 2‴ long, usually half as long as the petals. The leaves are variable in size, and in the length of the petiole, the pedicels either capillary or shortened, the calyx-lobes as long or longer than the tube.

α. Pedicels capillary, equalling the elongated petiole.

β. parvifolia, Kth. Pedicels about the length of the capsule; leaves small.—*Kth. Nov. Gen. t.* 472.—Sida Bastardia, *DC.*

Hab. Jamaica!, *Al., M'Nab*, to Trinidad!, *Lockh., Cr.;* [Cuba! to Brazil and Peru].

31. **B. bivalvis,** *Kth.* Suffruticose, glandular and pubescent; leaves cordate, pointleted, crenate; *pedicels* axillary, equalling the calyx, *much shorter than the petiole; calyx* 5-*partite: segments subulate, mucronate;* petals yellow; *capsule included* within the calyx, 5-celled, subglobose: *valves birostrate*, convex on the back; *seed with a scattered, minute down.*—*Cav. Diss. t.* 11. *f.* 3.—Sida, *Cav.* S. viscosa, *Macf.* (*non L.*).—Calyx 3‴, petals 4‴ long; carpid-beaks almost half the length of the cells.—Hab. Jamaica!, *Al., Wils.*, near Kingston, S. Davids; [Haiti].

Tribe II. *URENEÆ.*—*Carpels half as many as the stigmas, uniovulate. Radicle inferior. Column usually* 5-*toothed at the summit.*

8. MALACHRA, *L.*

Carpids 5, dry, at length separating from each other: style 10-fid. *Involucel* 0.—Suffrutescent, *usually hispid* herbs; leaves *toothed, often palmatilobed, those of the involucre cordate or subulate, usually with a white spot at the base:* stipules *setaceous;* flowers *glomerate;* flower-heads *axillary, surrounded by a stipulate involucre;* stamens *about* 20.

32. **M. capitata,** *L.* Hispid; *leaves roundish;* flower-heads peduncled (sometimes subsessile); *calyx* 5-fid, at length 5-partite: *lobes subulate; petals yellow* (or white), 2–3 times the length of the calyx; *carpids glabrate, half the length of the calyx*, the points of which are then linear and erect.—*Linn. in Act. Upsal.* 1743, *t.* 42.—Variable in the size of the flower, the division of the antheriferous column, the carpids more or less convex on the back, their minute down either early disappearing, or persistent, and in the leaves entire or somewhat lobed.

α. Flower-heads shortly peduncled or subsessile; petals twice the length of the calyx; anthers all approximate; carpids glabrous.

β. alceifolia, Jacq. Flower-heads peduncled; petals (6‴ long) three times the length of the calyx; several anthers separating from the sides of the column; carpids puberulous.—*Jacq. Ic. Rar. t.* 549; *Sl. t.* 137. *f.* 1; *Cav. Diss. t.* 33. *f.* 1; *Schrank, Ht. Monac. t.* 56.—M. capitata, *Cav. et Rich. Cub.* M. rotundifolia, *Schrk.*—Stem 6′ high.

γ. albiflora. Flower-heads peduncled; petals white, twice the length of the calyx; anthers all approximate; carpids puberulous.—Hab. Jamaica!, all collectors, moist places; Antigua!, Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil! and New Granada!, Congo].

33. **M. palmata,** *Mch.* Usually hispid; *leaves roundish* (lobed or entire); flower-heads peduncled; *calyx* 5-fid or deeply 5-fid: *lobes ovate-lanceolate; petals yellow,* twice the length of the calyx; *carpids glabrate,* nearly *equalling the connivent calyx.—DC. in Mém. Genève,* 1832, *t.* 5.—M. triloba, *Desf.*—This species is usually confounded with the preceding, and cannot be distinguished by the leaves; the calyx however not terminated abruptly with an elongated, linear, or setaceous point, but gradually tapering and equalling the fruit, seems to present a specific character, though the habit be identical.—HAB. Trinidad!, *Cr.;* [Cuba!].

34. **M. urens,** *Poit., Ledeb.* (*a.* 1805). Hispid; *leaves ovate,* bluntish, serrate-toothed, entire; flower-heads sessile; *calyx* deeply 5-fid: *lobes lanceolate* or ovate-lanceolate; petals . . ., twice the length of the calyx; *carpids villous,* very convex on the back, *half exceeded by the* linear erect points of the *calyx.*—M. ciliata, *Poir.* (1813), *ex descript. Rich. Cub.*—Richard describes the petals as purple, and so they are in the dried state in most of my specimens; but Mr. Wilson sent others with petals which had dried yellow, yet quite agreeing in all other characters. The species is easily recognized by the spreading, dense carpid-down, which however sometimes disappears with age. Stem 4′–6′ high.—HAB. Jamaica!, *Pd., Wils.,* in waste grounds; [Cuba! to S. Thomas!].

35. **M. radiata,** *L.* Hispid with long, stinging hairs; *leaves* mostly 3-*fid* to the middle: middle lobe and uppermost leaves oblong, pointed (or ovate); flower-heads usually peduncled (or with accessory sessile ones); calyx deeply 5-fid: *lobes lanceolate; petals purplish-white,* twice the length of the calyx; *carpids glabrous, half exceeded by the calyx.—Cav. Diss. t.* 33. *f.* 3.—Involucre narrower, and with the basilar, reticulated, white spot less developed than in the other species; stem higher, 6′–9′ high, very hispid, and "admirably adapted for use as a fibrous plant" (*Wils.*).—HAB. Jamaica!, *Dist., Wils.;* S. Vincent!, *Guild.;* Trinidad!, *Schach, Cr.,* common; [Panama!, Venezuela!, Guiana!].

9. URENA, *L.*

Carpids 5, dry, glochidiate, at length separating from each other: style 10-fid. *Calyx-lobes* alternate, with a 5-partite, persistent involucel.—Suffruticose *or* shrubby plants; leaves *usually furnished beneath with* 1–3 *slit glands on the base of the nerves;* flowers *subsolitary, axillary.*

36. **U. lobata,** *L. Leaves either trifid above the middle, or* with obsolete lobes and *entire,* glaucous-pubescent beneath: lobes ovate or oblong, minutely serrate: slit glands usually solitary (sometimes 3); petals pink.—*Cav. Diss. t.* 185. *f.* 1; *Desc. Fl.* 4. *t.* 271. —Petals 6‴–8‴ long, three times exceeding the calyx.

α. americana, L. Involucel-segments exceeding more or less the calyx; carpids pubescent.—*Cav. Diss. t.* 183. *f.* 2, *t.* 184. *f.* 1.—U. reticulata, *Cav., Macf.* U. viminea, *Cav.* U. Swartzii, *Rich. Cub.* (*non DC.*). U. microcarpa, *DC.*

β. Swartzii, DC. Involucel-segments equalling exactly the calyx; carpids tomentose.—U. sinuata, *Sw. Obs.* (*non L*). U. americana, *Sm.* U. ribesia, *Sm.*

HAB. Jamaica!, *Dist., Al., March,* common in dry hill-pastures; S. Kitts!, Antigua!, *Nichols.,* Dominica!, *Imr.* (*a*), S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Guiana!, Brazil!; Western Africa, Mozambique!; East Indies!, China!; Pacific Islands].

37. **U. sinuata,** *L.* Leaves 5–3-*lobed beyond the middle,* glaucous-pubescent beneath: lobes rhomboid, contracted at the base, irregularly serrate: slit glands 3; involucel-segments equalling the calyx; petals pink.—*Cav. Diss. t.* 185. *f.* 2.—U. paradoxa, *Kth.:* original specimens of which were compared by *Sagot.* U. Swartzii, *Macf.* (*non DC.*).—Petals 6‴ long, three times exceeding the calyx; carpids hirsute.—HAB. Jamaica!, *Al., March,* common in moist pastures; Caribbean Islands; Trinidad!, *Cr.;* [Cuba!; Venezuela; East Indies!].

10. PAVONIA, *Cav.*

Carpids 5, dry, at length separating from each other: style 10(–8)-fid. *Calyx* surrounded by an involucel of 5–15 either distinct or united leaves.—Shrubs *or* suffruticose plants.

Sect. 1. PELTÆA.—*Involucel* 10–12-*leaved: leaves distinct from each other, filiform, and enlarged abruptly at the top to a minute limb. Carpids dehiscent along the dorsal line.*—Flowers glomerate: flower-heads axillary, involucred. Leaves dotted.

This section was created by Presl upon several species, which he referred to *Malachra* (*M.*

ovata, urticifolia, and *trinervis,* ej.); it is however distinguished from the latter genus by the involucel, the dorsal dehiscence of the carpids, and the habit of *Pavonia.*

38. **P. bracteosa,** *Benth.* Shrubby, tomentose; leaves cordate-roundish, irregularly crenate-toothed, whitish beneath; *flower-heads axillary, peduncled,* encircled by roundish, involucral leaves; involucel 10–12-leaved: leaves nearly equalling the calyx, with a minute, oblong-lanceolate, subpeltate limb; petals . . ., twice exceeding the calyx; *carpids glabrous,* obovate, incurved at the top, convex and keeled on the back, erostrate.—Malachra trinervis, *Prl.*—Petals 6''' long; carpids 1''' long and broad.—Hab. Trinidad!, *Cr.,* at Cocarite; [Guiana, Ceara, Bahia].

Sect. 2. Typhalea.—*Involucel* 5–15-*fid. Carpids dehiscent along the ventral (or at length also along the dorsal) line, and without a central torus.*—Leaves scabrous with pellucid dots; flowers fascicled: fascicle involucred.

39. **P. typhalea,** *Cav.* (*Diss.* 2. *non* 6). Suffrutescent; leaves oblong, serrate; fascicles terminal and axillary: peduncles distant, inferior elongated, superior decrescent, leafless: pedicels nearly the length of the involucel; *involucel deeply* 5–8-fid: *lobes lanceolate,* acuminate, somewhat exceeding the calyx; *petals white; carpids* glabrous, *convex on the back,* triaristate: *awns* terminal, *distant from each other,* retrorsely barbed, scarcely half the length of the carpid.—Urena, *L.* (*ex. synon. P. Br.*) *et Sw.*—Petals 5'''–6''' long, twice the length of the calyx; carpids (without the awns) 3''' long.—The section *Typhalea* contains a series of nearly allied and variable species, the synonymy of which is not to be made out without the original specimens of the authors, who in their descriptions have neglected the specific characters observable in the fruit. The present species, confounded by Cavanilles with *P. typhaleoides,* Kth., is chiefly to be recognized by the small carpids, and by the infraterminal, short-peduncled, few or 1-flowered fascicles; the shape of the leaves, the proportion of the involucel to the calyx, and the length of the carpid-awns are subject to variation.—Hab. Jamaica!, *Pd., Bancr., Al.,* common in moist woods; [Portorico!; Panama!, Venezuela!].

40. **P. typhaleoides,** *Kth.* Suffrutescent or shrubby; leaves elliptical or oblong, crenate-serrate; fascicles terminal, subsolitary: pedicels half the length of the involucel; *involucel deeply* 5-*fid: lobes ovate and subulate,* half as long again as the calyx; petals "yellow" (*Cav.*); *carpids* glabrous, *convex on the back,* triaristate: *awns* terminal, *approximate to each other,* retrorsely barbed: the middle one longer, and at least as long as the carpid.—*Cav. Diss. t.* 197.—P. typhalea posterior, *Cav.* (*Diss.* 6. *p.* 350). P. surinamensis, *Miq.*—Petals about 8''' long, twice the length of the calyx; carpids (without the awns) 4''' long.—Hab. Trinidad!, *Cr.;* [Panama!, New Granada!, Venezuela!, Brazil!].

41. **P. castaneifolia,** *St. Hil., Naud.* (*Ann. Sc. Nat. II.* 18. *p.* 44). Suffrutescent (?); leaves elliptical-lanceolate, acuminate at both ends, irregularly toothed-serrate; fascicles terminal, solitary: pedicels half the length of the involucel; *involucel* 9–14-*fid: lobes lanceolate,* acuminate, at least *three times as long as the calyx;* petals . . .; *carpids* oblong, glabrous, *flat* and *keeled on the back,* triaristate: *awns* terminal, *distant from each other,* and somewhat divergent, retrorsely barbed, the middle one longer, and as long as the carpid.—Carpids 4½''' long.—Hab. Trinidad!, *Cr.,* near Tamanaco and Arena; [Brazil].

Sect. 3. Eupavonia.—*Involucel* 5–15-*leaved. Carpids indehiscent.*—Flowers solitary, racemose, or corymbose.

42. **P. spinifex,** *Cav.* Shrubby; leaves subcordate, serrate, with a scattered stellate down; *peduncles axillary,* 1-flowered; *involucel-leaves* distinct, 6–8, oblong-linear, *equalling the calyx;* petals yellow, 2–3 times exceeding the calyx, and exceeded by the column; *carpids* glabrous, *trispinose: spines* stiff, of equal length, *divergent,* retrorsely barbed: one infraterminal, two inserted to the middle of the margin.—*Jacq. Amer. Pict. t.* 185; *Cav. Diss. t.* 45. *f.* 2, 3.—Hibiscus, *L.* Pav. aristata, *Cav.*—A shrub, 5'–15' high, variable in the shape and down of leaves; petals 12''' long.—Hab. Jamaica!, *Macf., Dist., Pd., Al., March,* sparingly in the limestone districts; S. Kitts!, Antigua!, *Nichols.;* S. Lucia!, *Anders.;* [Cuba!; Panama! to Peru! and Brazil!].

43. **P. microphylla,** *Casar.* Shrubby; leaves small (4'''–6''' long), roundish or oval-

oblong, with a few coarse serratures; peduncles axillary, solitary, much exceeding the leaf; *involucel-leaves* distinct, 11–12, linear-filiform, 2–3 *times exceeding the calyx;* petals reddish-yellow, exceeding the column; *carpids trirostrate: beaks short,* retrorsely barbed, divergent.—A low shrub, 2′–3′ high; petals 8‴–10‴ long.—HAB. S. Vincent!, *Guild.;* [Bahia!].

44. **P. racemosa,** *Sw.* Shrubby, scabrous; leaves cordate, pointleted, subentire or obsoletely serrate; *flowers in a terminal raceme; involucel-leaves* 6–8, somewhat convex at the base, oblong-lanceolate or ovate-lanceolate, *subexceeded by* or equalling *the calyx;* petals greenish-yellow, twice exceeding the calyx, and including the column; *carpids* keeled and marginate, glabrous, *birostrate: beaks* very short, bluntish, *erect,* distant, glabrous, terminating the margin.—*Sl. t.* 139. *f.* 2; *Cav. Diss. t.* 46. *f.* 1.—P. spicata, *Cav.*—A shrub, 3′–16′ high: roots elongated; petals 8‴ long; carpids 4‴ long, 3‴ broad at the top.—HAB. Jamaica!, *Macf., M'Nab, Pd., Al., March, Wils.,* in seashore marshes and lagoons, among Rhizophoras; Antigua!, *Nichols.,* S. Lucia!, *Anders.;* Trinidad!, *Cr.;* [Cuba! to Brazil!, and Ecuador! to Peru!].

45. **P. corymbosa,** *W.* Suffrutescent or shrubby; leaves 3–5-fid or ovate (truncate or cordate at the base), pointed, coarsely serrate, glabrous or pubescent beneath; *flowers in* terminal and axillary *compound corymbs; involucel-leaves* distinct, 10–12, linear, pointed, pilose, *twice exceeding the calyx* and nearly equalling the corolla; petals yellow, including the column; *carpids* roundish, bluntish, *erostrate,* marginate, scabrous.—Althæa, *Sw.*—Stem 1′–2′ high, hairy; petals 6‴–8‴ long; carpids $1\frac{1}{2}$‴ long, 1‴ broad.—HAB. Jamaica (*Sw.*), on river-banks; [Haiti, Guadeloupe!, Venezuela].

11. MALVAVISCUS, *Dill.*

Carpids 5, combined into a baccate pericarp: style 10-fid. *Calyx* surrounded by a 7–12-leaved involucel. *Petals* convolute at the base, auriculate on one side.—Shrubs *or* trees, *with axillary pedicels;* leaves *dotted.*

46. **M. arboreus,** *Cav.* (*exclus. synon. Dillen.*). *Leaves* cordate, *longer than broad,* crenate or subentire (sometimes obsoletely 3-lobed); involucel-leaves 7–9, linear; *column twice as long as the red corolla;* berry "yellow."—*Sl. t.* 136. *f.* 1.—Achania malvaviscus, *Sw.*—I cannot find any specific character to separate the variable forms of the West Indian species, from which *M. mollis,* DC., of Mexico (often confounded with the same), is distinguished by the leaves as broad as long, the column shortly exserted, and "the berry red." *Hibiscus Malvaviscus,* L., is a mixture of both; for Sloane's, P. Brown's and Plumier's synonym belong to the former, those of Dillenius and Plukenet to the latter species.

α. Branches and petioles hairy; leaves pointleted, with a scattered down; involucel erect, somewhat exceeding the calyx; petals 1″–$1\frac{1}{2}$″ long.

β. parviflorus. Branches and petioles villous; leaves pointed and bluntish at the top, with tufts of villous hairs in the axils of the veins beneath; involucel ciliate, spreading or reflexed at the top, nearly equalling the calyx; petals 10‴–12‴ long.—*Desc. Fl.* 6. *t.* 383. —M. pilosus, *Macf. (exclus. synon. Sw.).*

γ. Sagræanus, Rich. Branches glabrate; petioles with appressed down; leaves pointed, glabrate; involucel suberect, nearly equalling the calyx; petals 8‴–10‴ long.—*Rich. Cub. t.* 14.—A form of this from the Bahamas is quite glabrous.

HAB. Jamaica!, all collectors, in woods; *β.* in the mountains; Bahamas!, *Swains.* (*γ*); [Cuba! (*γ*); Mexico!].

TRIBE III. *HIBISCEÆ.—Carpels as many as the stigmas, usually loculicidal and combined into a capsule. Column* 5*-toothed at the summit.*

12. KOSTELETZKYA, *Prl.*

Calyx surrounded by an involucel. *Capsule* depressed, 5-locular, loculicidal: cells 1-seeded.

47. **K. pentasperma,** *Gr.* Herbaceous or suffrutescent, hispid; leaves deltoid, acuminate from a truncate or subcordate base, irregularly toothed (or sublobate); *pedicels* axillary, 1-flowered, *exceeding the petiole* (sometimes equalling the leaf); involucel-leaves 8, setaceous, exceeded by the 5-fid calyx; petals yellow (or white), three times as long as the

calyx; capsule exserted, puberulous, 5-keeled: keels acute, ciliate-hispid; seeds minutely puberulous.—Hibiscus, *Berter.*—Petals 5‴–6‴ long; capsule 5‴ broad.—HAB. Jamaica!, *Dist., Pd., March,* near the coast; [Mexico!, Guayaquil!].

13. ABELMOSCHUS, *Med.*

Calyx spathaceous, surrounded by a 5–10-leaved, often caducous, involucel. *Capsule* elongated, 5-locular, loculicidal: cells many-seeded.

48*. **A. moschatus,** *Mch.* Suffruticose, hispid; *leaves hastate,* irregularly toothed (often with accessory lobes at the base); *pedicels* axillary, nearly *equalling the petiole;* involucel-leaves 6–10, linear, subpersistent, three times exceeded by the calyx; petals yellow, with crimson claws, three times exceeding the calyx; capsule oblong-lanceolate, hairy; seeds glabrous, striate.—*Cav. Diss. t.* 62. *f.* 2; *Desc. Fl.* 5. *t.* 361.—Hibiscus Abelmoschus, *L.*—Petals 2½″–3″ long; capsule 1½″–2″ long.—HAB. Naturalized in Jamaica (*Macf.*), the Caribbean Islands; [and in all tropical countries; said to be spontaneous in Guiana!, and Central America!].

49. **A. esculentus,** *W. A.* Herbaceous, hairy; *leaves 5-lobed,* irregularly serrate; *pedicels* axillary, *shorter than the petiole;* involucel-leaves 9–12, linear, caducous; petals yellow, with reddish claws, twice exceeding the calyx; capsule oblong-lanceolate, hairy, and with bristles; seeds somewhat hairy, substriate.—*Cav. Diss. t.* 61. *f.* 2; *Tuss. Fl.* 1. *t.* 10; *Desc. Fl.* 4. *t.* 269.—Hibiscus, *L.*—Petals 1½″–2″ long; capsule usually 3″ long.—HAB. Caribbean Islands (*Jacq.*), *e.g.* Barbadoes (*Hughes*); [Guiana!, and naturalized in all tropical countries].

14. HIBISCUS, *L.*

Calyx 5-fid or 5-toothed, surrounded by an involucel. *Capsule* 5-locular, loculicidal: cells many-seeded.

Sect. 1. TRIONASTRUM.—*Involucel-leaves distinct, enlarged at the top. Calyx 5-fid, ventricose. Seeds glabrous.*

50. **H. sororius,** *L.* Shrubby, puberulous with appressed down; leaves cordate, bluntish, crenate; pedicels axillary, jointed, nearly equalling the leaf; *involucel-leaves* 7–10, distinct, cylindrical, *enlarged at the top into a reniform limb,* twice exceeded by the calyx; calyx 5-fid, ventricose, twice exceeded by the corolla: lobes ovate, bluntish, eglandulose; petals rose-coloured, spreading; *capsule ovoid-globose,* pilose, included within the excrescent calyx; seeds glabrous, obsoletely muricate.—Corolla 12‴, capsule 10‴ long.—HAB. Caribbean Islands; [Guadeloupe!, Guiana!].

Sect. 2. FURCARIA.—*Involucel-leaves distinct, usually enlarged into a bifurcate limb. Calyx 5-fid, appressed to the capsule, with the lobes bearing a large gland on the outside of the midrib. Seeds glabrous.*

51. **H. bifurcatus,** *Cav.* Shrubby, muricate, and scabrous; leaves 3–5-lobed or hastate, irregularly serrate; pedicels axillary, jointed, exceeded by or equalling the petiole; *involucel-leaves* 10–12, distinct, linear, *bifurcate at the top,* equalling or exceeding the calyx; *calyx* 5-fid, hispid, 4–6 times exceeded by the corolla: *lobes* ovate, acuminate, 3-nerved, *glanduliferous* on the back; petals purple, spreading-erect; capsule ovoid, pilose, equalling the calyx; seeds glabrous, obsoletely muricate.—*Cav. Diss. t.* 51. *f.* 1.—H. bicornis, *Mey.!*—Corolla 3″, capsule 10‴ long.—HAB. Jamaica!, *Macf.*, in bogs near the seashore; [Guadeloupe!, Panama!, Guiana!, Brazil!].

Sect. 3. KETMIA.—*Involucel-leaves simple. Calyx appressed to the capsule. Seeds glabrous or pubescent, but without cotton-hairs.*

52. **H. tulipiflorus,** *Hook.!* *Arboreous,* pubescent with appressed down; leaves cordate-rounded, irregularly crenate; pedicels axillary, equalling the petiole; *involucel-leaves* 7–8, *distinct, ovate-lanceolate,* spreading, twice exceeded by the calyx; calyx 5-fid or at length deeply 5-fid, twice exceeded by the corolla: lobes ovate, pointed, 3-nerved; *petals* yellow, *velvety on the back,* spreading, obovate-oblong; capsule . . .—*Hook. Ic. t.* 707.—A high tree; corolla 2″–2½″ long.—HAB. Dominica!, *Imr.*, in mountain woods; [Guadeloupe!].

53. **H. clypeatus,** *L.* Shrubby, velvety; leaves cordate, angular-subtrilobed, minutely toothed; pedicels axillary, infraterminal; *involucel* 9–11-*partite:* segments linear-lanceolate, exceeded by the calyx; *calyx* 5-fid, nearly twice exceeded by the corolla: *lobes* large, *foliaceous*, ovate, pointed, 5-nerved; *petals* reddish-yellow, *velvety on the back*, spreading-erect, partly reflexed, somewhat unequal, oblong; capsule "roundish-truncate, hirsute;" seeds "glabrous."—*Sl. t.* 135. *f.* 1; *Cav. Diss. t.* 58. *f.* 1; *Desc. Fl.* 7. *t.* 517.—A shrub, 6′–12′ high; corolla 2½″–2″ long.—Hab. Jamaica!, *Macf.*, *March*, among seashore shrubs.

54. **H. trilobus,** *Cav.* Shrubby; *branches aculeate;* leaves 3(–5)-lobed or hastate, serrate, pubescent or glabrate; pedicels axillary and infraterminal; *involucel-leaves* 9–11, *distinct*, linear, exceeded by the calyx; *calyx* 5-toothed or 5-fid, four times exceeded by the corolla: *lobes broadly ovate*, pointed, 5-nerved and striate; *petals* red, *glabrous*, spreading or reflexed, obovate; capsule "ovoid, hispid, included within the enlarged calyx;" seeds... —*Plum. t.* 159. *f.* 1; *Cav. Diss. t.* 53. *f.* 2; *Jacq. Ic. Rar. t.* 550; *Tuss. Fl.* 3. *t.* 31; *Desc. Fl.* 6. *t.* 381, 7. *t.* 528.—H. domingensis, *Jacq.:* a form with violet petals and 3–5-lobed leaves. H. aquaticus, *Tuss.:* a form with crimson petals.—Corolla 3″, capsule 2″ long.—The Trinidad form, by its hastate leaves, the 5-fid striate calyx, and narrower petals, approaches *H. striatus*, Cav. (l. c. t. 54. f. 1), which however by Willdenow was reduced to the Haiti species.—Hab. Jamaica!, *Dist.*, in bogs; Trinidad!, *Cr.*, in savannahs; [Haiti].

55*. **H. vitifolius,** *L.* Herbaceous, velvety; leaves cordate-rounded, angular, with 3–5 short lobes, toothed; pedicels axillary and infraterminal, jointed; *involucel-leaves* 10–12, *distinct, filiform*, exceeded by the calyx; *calyx* 5-fid, 3–4 times exceeded by the corolla: *lobes ovate*, pointed, 5-nerved; petals yellow, with a large purple spot at the base, glabrous, spreading, obovate; *capsule* globose, 5-*winged*, pilose, exceeded by the enlarged calyx; seeds obsoletely tubercled with scattered minute down.—*Cav. Diss. t.* 58. *f.* 2.—Petals 2½″ long; capsule 6‴ diam.—Hab. Naturalized in Jamaica!, *March;* Dominica!, *Imr.;* S. Vincent!, *Anders.;* [introduced from the East Indies!].

Other species of *Ketmia*, cultivated in Jamaica and the Caribbean Islands, are *H. lunarifolius*, W.; *H. mutabilis*, L. (Desc. Fl. 4. t. 270); *H. cannabinus*, L.: two forms, one with the petals yellow and reddish at the base, the other purple-flowered; *H. Rosa-sinensis*, L.; *H. Sabdarifa*, L. (Desc. Fl. 1. t. 31); and *H. fragilis*, DC.

Sect. 4. Bombicella.—*Involucel-leaves distinct, simple. Calyx appressed to the capsule. Seeds covered with cotton-like wool.*

56. **H. phœniceus,** *Jacq.* (*non Cav.*) Shrubby, *glabrous;* leaves deltoid, acuminate, coarsely crenate-serrate (sometimes slightly lobed); pedicels axillary, exceeding the leaf, jointed about the middle; involucel-leaves 9–10, distinct, linear, equalling or exceeding the calyx; calyx 5-fid, twice exceeded by the corolla: lobes ovate, pointed; *petals* violet-crimson, *spreading*, obovate; capsule ovoid-globose, hairy, equalling the calyx; *seeds bearing* whitish *cotton-wool.*—*Jacq. H. Vind.* 7. *t.* 14; *Cav. Diss. t.* 67. *f.* 3; *Desc. Fl.* 6. *t.* 382.—H. hirtus, *Cav.* (*non L.*). H. unilateralis, *Cav.* H. Bancroftianus, *Ham.!* (*non Macf.*)—A shrub, about 5′ high; petals 6‴–8‴, capsule 4‴ long. The unilateral anthers afford no constant character of this species.—Hab. Jamaica!, *March;* S. Kitts!, Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [Haiti!, Venezuela].

57. **H. Bancroftianus,** *Macf.!* Shrubby, *pubescent;* leaves deltoid or cordate, pointed or bluntish, coarsely crenate-serrate (or slightly 3-lobed); pedicels axillary, nearly equalling the leaf, cernuous, jointed above the middle; involucel-leaves 9–10, distinct, linear-spathulate, pointed, somewhat exceeded by or equalling the calyx; calyx 5-fid, 2½ times exceeded by the corolla: lobes ovate, pointed; *petals* crimson, *convolute at the base*, erect and spreading above, obovate-oblong, exceeded by the column; capsule ovoid, hairy, a little exceeded by or equalling the calyx; *seeds bearing* white *cotton-wool.*—*Rich. Cub. t.* 16.—Achania pilosa, *Sw.!* (Malvaviscus, *DC.*). Hibisc. Macleyanus, *Bancr.!* H. truncatus, *Rich.! Cub.*—A shrub, like the preceding; corolla 14‴, capsule 5‴ long.—Hab. Jamaica!, *Macf.*, *Bancr.*, *Al.*, *March*, among shrubs, in the district of S. Ann's, *e.g.* near Moneague; [Cuba!].

15. GOSSYPIUM, *L.*

Calyx shortly 5-toothed, exceeded by a tripartite involucel. *Capsule* 3–5-locular, loculi-

cidal at the top: cells many-seeded, bearing cotton.—Segments *of the involucel cordate, and usually cut.*

58. **G. barbadense,** *L.* Suffrutescent or shrubby; branches and petioles bearing black dots; leaves mostly glabrous; involucel-segments cordate-acuminate, exceeding half the length of the corolla; petals yellowish, or changing into purple; seeds black: cotton white, "easily separable from the testa."—*Plukn. Alm. t.* 188. *f.* 1.—My materials do not allow of giving a more complete diagnosis of the cotton-plant, which is said to grow spontaneously in the West Indies; for I have examined only two West Indian forms:

α. Leaves 3–5-lobed; petioles and nerves beneath hairy, 3 of the latter usually bearing glands.—*G. brasiliense,* Macf.

β. integrum. Leaves entire (rarely obsoletely 3-lobed), with the petioles glabrous, bearing a single gland beneath or none.—Hab. Jamaica!, *Al.* (*α*); Caribbean Islands, *e.g.* Barbadoes (*Linn.*), S. Kitts! (*β*).

G. herbaceum, L., (the cotton-plant, cultivated usually in southern Europe,) is distinguished by the involucel half as long as the corolla, not acuminate, the leaves and stem pubescent, the petals yellow, with a large red spot at the base, and "the seeds white." This seems to be cultivated also in the West Indies (Tuss. Fl. 2. t. 17; Desc. Fl. 4. t. 278). But another shrubby *Gossypium,* cultivated also near Naples, is exactly intermediate between our *G. barbadense* and *G. herbaceum,* having the involucel not acuminate, but exceeding half the length of the corolla, purple flowers, black seeds, which are pubescent between the cotton, and downy, 3–5-lobed leaves. This would answer to the description of *G. purpurascens,* Poir., and to Bot. Reg. t. 84 (with the exception of the colour of the corolla, which is yellow, with a red spot at the base).

Swartz published a particular paper on the *Gossypia* cultivated in the West Indies (Stockh. Handl. 1790): but I am not able to combine his results with my investigation of West Indian specimens. He gives the following characters:

G. barbadense, L. Glabrous; leaves 3–5-lobed; seeds easily separable from the cotton.—Suffrutescent, 6′–15′ high.

G. hirsutum, L. Hirsute; superior leaves undivided; seeds green, adhering to the cotton.—Shrubby.

These species, he says, are generally cultivated in the West Indies, and together with *G. religiosum,* L., which he distinguishes chiefly by coloured cotton adhering to green seeds.—Macfadyen described four species, and stated all of them to be naturalized in Jamaica: of these I believe I recognize his *G. brasiliense,* while *G. purpurascens, G. jamaicense,* Macf., and *G. oligospermum,* Macf., seem to belong to those forms of *G. herbaceum* and *G. purpurascens* which I have mentioned above.

16. PARITIUM, *St. Hil.*

Calyx 5-fid, surrounded by an 8–10-fid, or 8–10-toothed involucel. *Style* thickened and pubescent above, shortly 5-fid: stigmas enlarged. *Capsule* 5-locular, loculicidal: cells many-seeded, partitioned lengthwise by a spurious, incomplete dissepiment, which by dehiscence splits into two membranes.—Trees *or* high shrubs; *one or three of the leaf-ribs usually glandular beneath at the base;* stipules *broad, deciduous;* peduncles 1–3-*flowered, terminal and axillary.*

59. **P. tiliaceum,** *A. Juss.* Leaves cordate-rounded, usually cuspidate, hoary with down beneath, quite entire, or obsoletely crenate; involucel 10-fid (sometimes 10-toothed, or deeply 10-fid), persistent with the calyx; *petals yellow,* obovate; *capsule ovoid-rounded,* tomentose: *seeds glabrous* (or with a minute scattered down).—*Sl. t.* 134. *f.* 4; *Cav. Diss. t.* 55. *f.* 1; *Desc. Fl.* 2. *t.* 148.—Hibiscus, *L.* H. arboreus, *Desc.* H. similis, *Bl.*—A high shrub, or tree, 10′–20′ high; involucel 6‴, calyx 10‴, petals 2″–2½″, capsule 8‴ long.—Hab. Jamaica!, *Macf.,* common along the seashore, to Trinidad!, *Cr.;* [all tropical seashores: Cuba!, and Mexico! to Brazil! and Peru!, Pacific Islands!; East Indies!; Western Africa!, Port Natal!, Cape!].

60. **P. elatum,** *G. Don.* Leaves cordate-rounded, shortly cuspidate, hoary with down beneath, quite entire; involucel at length deciduous together with the calyx, 8–10-toothed (often in one or several sutures divided to or beyond the middle); *petals* changing in colour, large; *capsule ovate-globose, or ovate-oblong,* villous: *seeds villous.*—*Sl. t.* 134. *f.* 1, 2:

the flower belongs to β, the leaf (*f.* 1) resembles γ.—Hibiscus, *Sw.*—A spreading tree (size of a horse-chestnut-tree: *Al.*); involucel 8‴–12‴, calyx $1\frac{1}{2}$″–2″, petals 4″ long.—This species, hitherto confounded with the preceding, is distinguished chiefly by its large flowers, and by the seeds covered with a dense villous down. Its petals in the early morning are of a pale-primrose colour, and become orange-coloured and deep-red as the day advances. It is variable in the division of the involucel, like the preceding: its teeth, however, are in most instances shorter, and all or some of them often 3–4 times exceeded by the campanulate tube.

α. Petals obovate; capsule ovate-globose, bluntish.—H. elatus, *Macf.*—H. tiliaceus, Tuss. (Fl. 2. t. 5), seems from the colour of the petals to be the same, though in the figure the flowers have the size of *P. tiliaceum.*—Petals nearly 2″ broad above; capsule 1″ long, 10‴ broad.

β. *macrocarpum.* Petals oblong; capsule ovate-oblong, somewhat pointed.—P. elatum, *Rich. Cub.*—Petals 10‴–12‴ broad above; capsule 15‴–16‴ long, 8‴–9‴ broad.

γ?. *abutiloides*, G. Don. Leaves green on both sides, or glaucous beneath, at length glabrate beneath, crenate or obsoletely toothed.—Hibiscus, *W.*—This plant, of which I know only the younger state before its flowering, is cultivated in the Botanical Garden of Bath, in Jamaica, as the tree which produces the celebrated Cuba-bast, and living specimens of it are now to be seen in the Kew Gardens: the Cuba-bast-plant however, observed at Havanna by Mr. Christie, specimens of which are contained in the Economic Museum at Kew, is *P. elatum*, α, itself.

Hab. Jamaica!, *Macf.* (β), *Pd.* (β), *Al.* (α, β), *March* (α, β, γ), *Wils.* (β, γ), in the lower hills and plains of the interior districts, from S. Thomas in the Vale to Westmoreland, *e. g.* Moneague, where α is common in Phœnix Park, *Alex.*; Dove-hall in the hills of S. Thomas (β), *Al.*; [Cuba!].

17. THESPESIA, *Corr.*

Calyx 5-mucronate, truncate, surrounded by a caducous, 3-leaved involucel. *Style* simple, with 5 distinct stigmas, which are decurrent along its glabrous, thickened top. *Fruit* leathery, indehiscent, 5-celled: seeds several in each cell, large.—Trees; leaves *quite entire*; pedicels *axillary.*

61. **T. populnea,** *Corr.* Glabrous, scaly; leaves cordate, deltoid, and pointleted; pedicels equalling the petiole.—*Cav. Diss. t.* 56. *f.* 1.—Hibiscus, *L.*—Involucel-leaves lanceolate, disappearing at the expansion of the flower, equalling the calyx; calyx 6‴ long and as broad at the top; petals yellowish-purple, variegated, obovate-oblong, $2\frac{1}{2}$″ long; fruit globose, 15‴ diam.; seeds 4‴ long, trigonal-obovate, striate, glabrate, but villous at the base and at the angles.—Hab. Jamaica!, *Dist.*, *March*, *Wils.*, along the seacoast; Caribbean Islands; [Guadeloupe!; East Indies!, North Coast of Australia!, New South Wales; Senegambia!].

XXVI. BOMBACEÆ.

Character of *Malvaceæ*; but column divided usually above into 5 or more parcels, and pollen smooth. *Anthers* unilocular, or, if apparently bilocular, the cells joined at the top.

The mucilaginous properties are the same as in *Malvaceæ*. The soft, spongy wood of several Bombaceous trees (*e. g.* Corkwood from *Ochroma*, the bark of which yields fibre) and the wool, which envelopes the seeds in some of them, are employed for technical purposes.

1. PACHIRA, *Aubl.*

(Carolinea, *L. fil.*)

Calyx truncate, or sinuate. *Column* divided above into a great many filaments: anthers incumbent, unilocular. *Capsule* 5-locular, loculicidal: seeds many, glabrous.—Trees; leaves *palmate*; flowers *axillary, large*; petals *tomentose.*

1. **P. aquatica,** *Aubl.* Leaflets glabrous 5(–9), elliptical-oblong, obovate-oblong, or elliptical-lanceolate, subsessile; calyx truncate, warty-rugose; petals linear; *column divided above into* 10, geminate, *exterior, and* 5 *interior bundles of filaments*, each dichotomous, and bearing 10–30 geminate organs; anthers linear, recurved; stigma obsoletely 5-lobed.—*Tuss. Fl.* 4. *t.* 3. 4.—P. grandiflora, *Tuss.*: perhaps a correct name, as Aublet's figure

differs by a large, 5-partite stigma. Carolinea princeps, *L. fil.*—Calyx 12‴–14‴ long, 1½″ broad at the top; petals greenish-white, 8″ long, 6‴–8‴ broad; sexual organs 7″ long, yellowish-purple.—HAB. S. Lucia!: *Anders.*; [Guadeloupe!; Panama!, New Granada!, Surinam!, Brazil!].

P. insignis, Sav. (*Carolinea*, Sw. cum cit. Cav. Diss. t. 154, *Bombax grandiflorum*, Cav.), observed in Tobago and Martinique, is distinguished (according to Swartz) by the leaflets usually 7, the flowers red, and the capsule more rounded: of this I have only seen a leaf in the British Museum, the leaflets of which are obovate-oblong and much larger than in *P. aquatica* (1½′–1′ long, and 1′–4″ broad).

Adansonia digitata, L. (Tuss. Fl. 3. t. 33, 34; Desc. Fl. 4. t. 291), is only a cultivated tree in the West Indies: this genus approaches *Pachira*, but is distinguished by an indehiscent capsule, filled with a farinaceous pulp.

2. ERIODENDRON, *DC.*

Calyx shortly 5-lobed. *Column* divided into 5 filaments, each bearing at the top 2–3 unilocular anthers. *Capsule* 5-locular, loculicidal: seeds many, enveloped in wool.—Trees; leaves *palmate*; flowers *axillary*; petals *tomentose externally*.

2. **E. anfractuosum,** *DC.* Leaflets 5–7, lanceolate or oblong-lanceolate; petals obovate, rose-coloured, glabrous internally; filaments subulate above: *anthers anfractuose.*—*Cav. Diss. t.* 151; *Jacq. Amer. Pict. t.* 182: a form with the leaflets subsessile and serrate above.—Bombax pentandrum, *Cav.*; B. Ceiba, *Lun.* (*non L.*).—A very high tree: stem armed with spines when young, sometimes ventricose; leaflets variable in breadth, petiolulate or subsessile, either quite entire or serrate; flower-fascicles peduncled; calyx 6‴–8‴ long; petals spreading from the middle, equalling the sexual organs, 20‴ long; stigma enlarged, subcapitate.—HAB. Jamaica!, *Dist.*, *Al.*, everywhere, but chiefly scattered over the hill pastures on the north side of the mountain chain, and one of the most characteristic arboreous features of the island (Cotton-tree); S. Lucia!, *Anders.*, S. Vincent!, *Guild.*; [Cuba to Guiana!, and equatorial Brazil!].

3. OCHROMA, *Sw.*

Calyx shortly 5-lobed, surrounded by a caducous, 3-leaved involucel: calyx-lobes unequal, 2 pointed, imbricate at the base, 3 rounded, induplicative. *Column* tubulose: upper part covered on the outside with adnate, contiguous, spiral, linear, unilocular anthers, 5–10-fid at the top. *Stigmas* exserted, 5, linear, and spirally contorted into a cylindrical body. *Capsule* 5-locular, loculicidal: seeds many, enveloped in wool.—Trees; leaves *simple, cordate, angular or absolutely* 5–7-*lobed, subentire or toothed*; flowers *terminal, large*; petals *puberulous externally*.

3. **O. Lagopus,** *Sw.* Leaves puberulous beneath; petals pale-rufescent or yellowish-white.—*Cav. Diss. t.* 153.—Bombax pyramidale, *Cav.*—A tree, 20′–40′ high; calyx velvety, 3″ long; petals 5″–6″ long, somewhat exceeding the column, exceeded by the stigmas: limb obovate, wavy: claws oblong-linear, equalling the calyx; capsule 1″ long: wool pale-rufescent.—HAB. Jamaica!, *Pd.*, *Wils.*, common in damp situations, in the lower hills; S. Vincent!: *Guild.*; Trinidad!: *Sieb. Tr.* 95; [Cuba!, Guadeloupe!, Mexico, Venezuela!].

4. MYRODIA, *L.*

Calyx 5-toothed or operculate. *Column* filiform, obsoletely 5-toothed at the top: anthers 10–15, sessile on its outside, bilocular with the ovoid cells united at their ends. *Ovary* 2(–3)-locular: cells biovulate. *Stigma* subcapitate. *Pericarp* woody-leathery, indehiscent, usually unilocular and monospermous by abortion: seed large, glabrous, exalbuminous.—Trees or shrubs; leaves *simple, elliptical or oblong, glabrous*; peduncles *lateral or axillary*; petals *small, pubescent externally*.

4. **M. turbinata,** *Sw.* Leaves elliptical, quite entire; *peduncles* 1-flowered, *nearly as long as the petiole*; *calyx* ovoid, at length turbinate, *irregularly circumscissile*: remaining tube split into several unequal lobes; column enlarged at the antheriferous top; anthers 15.—*Sw. Fl. t.* 22: *analyt.*—A tree, 30′–50′ high; petals spathulate, whitish, 6‴ long, twice the length of the remaining calyx-tube, nearly equalling the sexual organs.—HAB. S. Kitts to S. Lucia!, *Anders.*, in damp woods [Mexico, Guiana!, Brazil!].

5. HELICTERES, *L.*

Calyx 5-fid, usually bilabiate. *Column* filiform, connate with the included carpophore, terminated by 10–∞ monantherous filaments, the interior of which are sterile: anthers bilocular, with the cells united at their ends. Ovary surrounded by the filaments, 5-locular: cells many-ovulate. *Stigma* subcapitate. *Carpids* at length distinct, follicular (*i. e.* dehiscent along the ventral line), many-seeded: seeds glabrous.—Trees *or* shrubs; leaves *simple; flowers usually fascicled.*

Sect. 1. SPIROCARPÆA.—*Carpids contorted into a woody cone. Anthers* 10.

5. **H. jamaicensis,** *Jacq.* Shrubby, furfuraceous-tomentose; leaves cordate, pointed, crenate (sometimes somewhat lobed); fascicles peduncled, terminal and axillary, few-flowered; *calyx campanulate,* bilabiate, 3–4 times shorter than the column: lobes ovate, pointed; petals white, asymmetrical, nearly twice the length of the calyx, auricled at the base of the oblong limb; *anther-cells oblong; cone* twisted, *ovate-oblong.—Jacq. Amer. Pict. t.* 226; *Desc. Fl.* 6. *t.* 407.—H. Isora, *Desc. Lun.*—A shrub, or low tree, 4′–15′ high; leaves velvety, hoary beneath; calyx 8‴ long; cone 1½″–1″ long, tomentose, variable in shape, either rounded or somewhat pointed at the top, but in both cases rounded or subtruncate at the base: circumvolutions about 10.—HAB. Jamaica!, *Macf., Pd., March,* among shrubs, on limestone; [Haiti, S. Thomas!, Panama!].

6. **H. baruensis,** *Jacq.* Shrubby, furfuraceous-tomentose; leaves cordate, pointed, serrate, at length glabrescent above; fascicles peduncled, terminal and axillary, few or one-flowered; *calyx tubular,* bilabiate, 2–4 times shorter than the column: lobes lanceolate, acuminate; petals white, nearly twice the length of the calyx, auricled at the base of the reflexed, linear limb; *anther-cells linear; cone* twisted, *linear-oblong.—Jacq. Amer. Pict. t.* 227.—H. althæifolia, *Lam.*—A shrub, about 12′ high; leaves variable in shape, either cordate-rounded or cordate-oblong, hoary-tomentose beneath; calyx 8‴ long; cone 1½″ long, 4‴–6‴ diam., blunt at the base, bluntish or pointed at the top: circumvolutions about 5, the upper part of the carpids being less twisted.—HAB. Trinidad!, *Sieb. Tr.* 98, *Lockh., Cr.;* [Mexico!, Venezuela!, Guiana!].

Sect 2. ORTHOCARPÆA.—*Carpids straight. Anthers* 5–10.

7. **H. semitriloba,** *Berter.* Shrubby, furfuraceous; leaves cordate-roundish or ovate, sinuate-toothed (sometimes somewhat 3-lobed), at length glabrescent above; *flowers in a dense, terminal corymb:* pedicels short, glandular at the base, surrounded by two linear bracts; calyx campanulate, shortly 5-lobed, six times exceeded by the column: four inferior lobes rounded, uppermost one longer; petals (turning reddish on being dried) half-exceeding the calyx, not auricled: limb obovate, reflexed; *anther-cells* oblong-ovoid; *fruit straight,* linear-oblong.—*Rich. Cub. t.* 19.—H. trapezifolia, *Rich.:* the shape of the leaves, by which Richard would distinguish this from his *H. furfuracea,* is subject to variation.—A shrub, 8′–12′ high; leaves 1″–3″ long, hoary by appressed down beneath; calyx 3‴, fruit 1″–1½″ long.—HAB. Bahamas!, *Swains.;* [Haiti!, Cuba].

XXVII. STERCULIACEÆ.

Flowers unisexual, apetalous. *Calyx* coloured, valvate. *Staminiferous column* hypogynous (sometimes reduced): anthers bilocular. *Carpids* definite, at length distinct, follicular.—Trees.

The seeds of *Cola* (called *Bichy,* or *Cola*) are employed as a condiment by the Negroes.

1. STERCULIA, *L.*

Calyx rotate-companulate, 5-fid. *Column* filiform, terminated by 10–20 anthers: *anther-cells* parallel. *Carpids* 5, inserted to the top of a carpophore, united by a simple style. *Seeds* albuminous.—Flowers *paniculate, usually cernuous.* Leaves *toothless.*

1*. **S. carthagenensis,** *Cav. Leaves* cordate-rounded, 5(–3)-*lobed* to the middle, glabrate above, velvety beneath: lobes elliptical, blunt, or oblong; *calyx* 5-*fid to the*

middle, furfuraceous externally, broadly ovate: lobes deltoid, subreflexed; column and style incurved; pistil syncarpous.—*Jacq. Amer. Pict. t.* 263. *f.* 74: the flower.—Helicteres apetala, *Jacq.*—A fine tree, about 40′ high; leaves usually more than a foot in diam.; calyx yellowish, with purple spots, 6‴–8‴ long, 10‴ broad.—Hab. Naturalized in Jamaica!, *March*; [introduced from the continent; Mexico, Panama!, Brazil].

2. **S. caribæa,** *R. Br. et Benn.* *Leaves* ovate-oblong, mostly *entire*, pointleted, rounded at the base, *glabrous above, puberulous beneath; calyx deeply 5-fid*, furfuraceous: lobes ovate-lanceolate, spreading, nectariferous internally; column 10-androus; *carpids* early distinct, tardily dehiscent, semielliptical, at length *stipitate*: style incurved.—S. Ivira, *Sw., partim.*—A high tree; leaves 6″–8″ long: petiole tumid at the base and at the top; calyx yellowish, 4‴ long; follicle 1½″ long: the carpophore nearly of the same length.—Some of the Dominica specimens have the leaves 3-lobed.—Hab. Jamaica!, *Pd.*; Dominica!, *Imr.*, to S. Vincent!, *Guild.*; Trinidad!, *Pd.*, in the hills at S. Ann's.

2*. COLA, *Schtt., Endl.*

Calyx rotate, 5-fid. *Column* depressed, scutelliform, bearing on the margin 10 ovoid anthers: anther-cells convergent. *Carpids* 5, many-ovulate: stigmas distinct, sessile. *Seeds* exalbuminous.—Leaves *entire*: petiole *tumid at both ends*; panicles *short, corymbose, axillary.*

3*. **C. acuminata,** *R. Br. et Benn.* Leaves oblong, pointed at both ends, glabrate; calyx 5-fid beyond the middle, furfuraceous: lobes oblong, pointed; anthers and carpids sessile.—*Beauv. Owar.* 1. *t.* 24.—Sterculia, *P. B.*—Leaves 6″–8″ long; calyx 8‴ long, pale-yellow, with purple spots on the inner side.—Hab. Naturalized in Trinidad!, *Cr.*, cultivated in Jamaica!, *March*; [introduced from tropical Africa].

XXVIII. BUETTNERIACEÆ.

Calyx valvate. *Stamens* monadelphous, usually definite, the fertile ones opposite to the petals: anthers 2(–3)-locular, with the pollen smooth. *Pistil* syncarpous, rarely simple: carpids 5 (–1).—Leaves *alternate, stipulate: down usually stellate.*

The Cacao (or oily and nutritious seed of *Theobroma*) is the most important product of this Order, and a fatty oil prevails also in the embryo of the allied genera. The general properties are the same as in *Malvaceæ*. Thus *Guazuma* and *Waltheria* yield a mucilaginous drug, and *Ayenia magna* is a fibre plant.

Tribe I. *THEOBROMEÆ.—Column free from the petals, divided into definite, fertile, and sterile filaments.*

The East Indian *Abroma angusta*, L., occurs in the S. Vincent collection, but is to be considered only as a cultivated plant. Lunan remarks that specimens introduced into Jamaica were in a sickly state.

1. GUAZUMA, *L.*

Calyx 3-(2–4)-partite. *Petals* 5: limb cucullate, with a terminal, linear, bifid appendage. *Column* shortly 10-fid: fertile lobes triantheriferous: anthers bilocular. *Styles* 5, contiguous. *Nut* tubercled, 5-celled: cells polyspermous. *Embryo* inflexed, enclosed by a thin endosperm: cotyledons fleshy, plaited.—Trees; leaves *distichous, serrate, usually oblique at the base;* corymbs *mostly axillary.*

1. **G. tomentosa,** *Kth.* *Leaves* oblong-lanceolate, acuminate, semicordate at the base, scabrous or glabrescent above, *pubescent* and usually hoary *beneath; nut ovoid-globose*, with 5 obsolete furrows above.—*Cav. Ic.* 3. *t.* 299.—Theobroma Guazuma, *L.*, *Sw.* Bubroma, *W.* Guaz. polybotrya, *Cav.* G. ulmifolia, *Macf.* (*non Lam.*). G. parvifolia, *Rich.*—A middle-sized tree, usually 15′–20′, sometimes 40′–50′ high: branches with a very tenacious rind, hoary with stellate down; corymbs nearly twice the length of the petiole; petals yellow, 1½‴ long, with the appendage as long; nut subdrupaceous, purplish-black, 12‴–8‴ long, 9‴–6‴ diam.—I cannot confirm the observations published by Richard (*Fl. Cub. p.* 189) on this and the following species. In both the column bears externally at its base five tufts of hairs, and the longitudinal furrows, the occurence of which in this species he denied, are observable in the

ripe fruit.—HAB. Jamaica!, *Dist.*, *Al.*, *March*, common in woods and pastures; Caribbean Islands; [Texas!, *Berland.;* Mexico! to Venezuela! and New Granada!, East Indies!].

2. **G. ulmifolia,** *Lam.* *Leaves* oblong-lanceolate (or ovate), pointleted, oblique at the base, *glabrous* (powdery beneath in the younger state); "*nut globose*, with 5 longitudinal furrows."—*Tuss. Fl.* 4. *t.* 24; *Desc. Fl.* 2. *t.* 85.—G. Bubroma, *Tuss.*—Branchlets powdery-rufescent, glabrescent; flowers as in the preceding.—HAB. Jamaica!, *Hb. Bks.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Cuba, Portorico!, Guadeloupe!, Guiana!, Brazil!].

2. THEOBROMA, *L.*

Calyx 5-partite, coloured. *Petals* 5: limb cucullate, with a terminal, spathulate appendage. *Column* 10-fid: fertile lobes biantheriferous: anthers bilocular. *Style* 5-fid. *Fruit* baccate, 5-celled: cells pulpy, polyspermous. *Embryo* exalbuminous: cotyledons fleshy, corrugate.—Trees; leaves *entire;* pedicels *fascicled or solitary, lateral.*

3. **T. Cacao,** *L.* Leaves oblong, acuminate, glabrous, quite entire; flowers fascicled; pericarp ovoid-oblong, 10-costate.—*Sl. t.* 160; *Tuss. Fl.* 1. *t.* 13; *Desc. Fl.* 4. *t.* 266.—Calyx rose-coloured: segments lanceolate, acuminate, exceeding the yellowish corolla; pericarp yellow or reddish, leathery, 6″–8″ long.—HAB. Trinidad!, *Schach;* naturalized in Jamaica!, *Dist.;* S. Lucia!, *Anders., etc.;* [Guiana!, Brazil!].

TRIBE II. *BUETTNERIEÆ.—Column affixed above by the glands to the petals: anthers solitary, inserted between the column-lobes.*

3. AYENIA, *L.*

(Cybiostigma, *Turcz.*)

Calyx 5-partite, membranaceous. *Petals* 5, affixed to the column by the top of the filiform claw: limb inflexed. *Column* 5-lobed: anthers 3-locular, sessile in the sinuses between the lobes or sterile anthers. *Style* simple: stigma of 5 globose lobes. *Capsule* pentacoccous: carpids one-seeded, dehiscent along the inner angle. *Embryo* . . . .

The three ovoid anther-cells, united in their axis and dehiscent by fissures, of which two are lateral and the third extrorse, seem to afford the chief character to distinguish *Ayenia* from *Buettneria.* If they were correctly to be compared with the three anthers of *Guazuma,* the artificial character of the Order derived from bilocular anthers would be lost. In *Buettneria celtoides,* St. Hil., which, according to its filiform petal-claws, would be an *Ayenia,* and has the habit of *Cybiostigma,* St. Hilaire has figured two disjoined anther-cells.

The three West Indian species of *Ayenia* have no similarity of habit, and might as well be considered as so many distinct genera, which by *Buettn. microphylla,* L., pass gradually into that large genus.

Sect. 1. CYBIOSTIGMA.—*Limb of petals devoid of a dorsal or terminal appendage, reniform, and bicuspidate-hastate at the base. Column-lobes erect, entire, antheriform. Ovary shortly stalked. Capsule echinate.*—Shrubs, covered with stellate down; leaves toothed; corymbs axillary: flowers greenish.

4. **A. magna,** *L.* *Leaves cordate,* acuminate, toothed-serrate: petiole almost half the length of the limb, much exceeding the corymb; calyx-segments ovate, acuminate, hairy externally, spreading and almost three times longer than the corolla; petal-limbs much exceeded by their claw: auricles extrorse; column-lobes oval, much larger than the anthers; ovary hairy, three times longer than their carpophore; style equalling the column; capsule globose.—A. cordifolia, *DC.* Cybiostigma abutilifolium, *Turcz.!*—A shrub, 2′–5′ high; leaves pubescent, velvety beneath, 2½″–3½″ long, 2″ broad; corymbs solitary or fascicled, 3–12-flowered; calyx 1½‴ long; capsule 3‴ diam., covered with soft spines.—HAB. Jamaica!, *M'Nab, March,* in the southern district of S. Andrew's; [Mexico!, Yucatan!, Venezuela!].

Sect. 2. LEIAYENIA.—*Limb of petals devoid of appendages, roundish. Column-lobes spreading, bipartite. Ovary stalked. Capsule* . . . .—A glabrous shrub; leaves quite entire; pedicels axillary, filiform: flowers purple.

5. **A. lævigata,** *Sw.!* *Leaves ovate, obtusate, quite entire:* petiole short, exceeded by

the solitary pedicel; calyx-segments oval, bluntish, equalling the column; petal-limbs twice exceeded by their claw; column-lobes bipartite: special ones shortly subulate, exceeding the anthers; style equalling the column.—This species has not been observed since the time of Swartz, and I have only seen his own specimen in the Stockholm collection, and that of Shakspeare in the British Museum, which are both incomplete.—A branched shrub: habit of a *Rhamnus;* leaves 1″–2″ long, 9‴–12‴ broad, glabrous and somewhat shining, arch-nerved, with the delicate veins prominent on both sides: petiole thin, 1‴–2‴ long, with the stipules minute and deciduous; calyx 1‴ long, spreading, membranaceous.—HAB. Jamaica!, *Sw.*, rare among shrubs.

Sect. 3. EUAYENIA.—*Limb of petals roundish-emarginate, terminated by a stalked, oblong gland (or appendage), which is reflexed. Column-tube filiform and enlarged abruptly into the infundibular limb: lobes erect, subemarginate, antheriform. Ovary long-stalked. Capsule verrucose.*—A suffrutescent, procumbent herb: down minute, stellate; leaves serrate; flowers fascicled, axillary, purple.

6. **A. pusilla,** *L.* Stems numerous from a perennial root; *leaves ovate or lanceolate, pointed or acuminate, serrate,* pubescent or glabrate: petiole short, exceeded by the filiform pedicels; calyx-segments ovate-lanceolate, nearly equalling the column and the corolla; petal-limbs much exceeded by their claws: diameter a little longer than their dorsal appendage; column-lobes oval-rounded, much larger than the anthers; ovary much shorter than its filiform carpophore, which is included within the narrow part of the column; style the same length as the ovary, reaching to the top of the column; capsule globose, puberulous between the scattered warts.—*Sl. t.* 132. *f.* 2; *Cav. Diss. t.* 147.—Stems 6″–12″ long, diffuse; leaves variable in shape on the same branch, 4‴–10‴ long, 3‴ broad: petiole 2‴–3‴ long; flower-fascicle sessile or shortly peduncled: pedicels usually 3–5, 3‴ long; calyx $1\frac{1}{4}$‴ long; capsule 2‴ diam.—HAB. Jamaica (*Sl.*), Antigua!, *Nichols.;* [California!, New Mexico!, Texas, Key-west].

4. BUETTNERIA, *L.*

(Pentaceros, *G. W. F. Mey.*)

Calyx 5-partite, coloured. *Petals* 5, affixed to the sterile lobes of the column by the margin of the limb: limb subsessile (or shortly clawed), erect, with a terminal, narrow appendage. *Column* 5-lobed: anthers bilocular, subsessile in the sinuses between the lobes (or sterile anthers). *Ovary* 5-locular: cells biovulate: superior ovule ascending, inferior pendulous. *Style* simple: stigma of 5 globose lobes. *Capsule* pentacoccous, echinate: carpids one-seeded, dehiscent along the inner angle. *Embryo* albuminous, straight: cotyledons convolute, foliaceous, 2-lobed.—Shrubs (*rarely* herbs); inflorescence *axillary or lateral.*

Pentaceros aculeatus, Mey.!, is a congener, apparently the same with *B. brevipes,* Benth.

B. microphylla, L., indigenous in the larger Antilles [Haiti!, Cuba!], is distinguished by its bipartite anthers, and petals shortly clawed, biauriculate at the base of the limb. This species (though shrubby and twining), exhibits the habit of *Ayenia pusilla,* and its capsule is rather more verrucose (with elongated, soft warts) than prickly with spines. It might consequently be considered likewise as a particular, intermediate genus.

7. **B. scabra,** *L.* (*non Pohl*). *Stem* shrubby, *prickly:* branches virgate, angular above, glabrous; *leaves* rigid, *linear* or lanceolate-linear, mucronate, quite entire, or with a few teeth, and scabrous on the margin, shortly petioled: petiole marginate; flower-fascicles small, peduncled, arranged in interrupted compound racemes; calyx-segments lanceolate, much exceeding the column; petals subsessile, obcordate: *appendage clavate-linear,* puberulous, three times exceeding the limb, and equalling the calyx; column-lobes short, rounded; capsule globose: prickles short.—*Aubl. t.* 96; *Cav. Diss. t.* 148. *f.* 1: a form with the inferior leaves hastate. *Pohl, Bras. t.* 149, 151, 154.—B. ramosissima, *et* scalpellata, *Phl.:* both accidentally without prickles. B. virgata, *Phl.*—A trailing shrub, 3′–12′ high; prickles shortly subulate, spreading or recurved; inferior leaves 4″ long, 4‴ broad, superior ones reduced; flowers whitish, with red petal-appendages: calyx 1‴–2‴ long; capsule 6‴ diam.—HAB. S. Vincent!, *Anders.;* Trinidad!, *Pd., Cr.;* [Guiana!, Brazil!, Uruguay!].

8. **B. catalpifolia,** *Jacq.* *Stem* shrubby, *unarmed,* powdery; *leaves* large, *cordate-*

ovate, pointleted, quite entire, long-petioled: petiole cylindrical, and enlarged at the base; panicles corymbose, equalling or exceeding the petiole, puberulous; calyx-segments lanceolate-linear, acuminate, much exceeding the column; petals sessile, ovate: *appendage linear*, bluntish, tapering towards the base, three times exceeding the limb, and equalling the calyx; column-lobes roundish, glandular; connective prominent; ovary covered with glands: style distinct, short; capsule . . . .—*Jacq. H. Schœnbr.* 1. *t.* 46.—A high, trailing shrub; leaves 6″–8″ long, and nearly as broad: petiole equalling the limb, or shorter; flowers white, with a red point on the petals.—HAB. Trinidad!, *Cr.;* [Venezuela].

TRIBE III. *HERMANNIEÆ.—Column free above,* 5*-androus, without sterile lobes: anthers opposite to the corolla.*

5. MELOCHIA, *L.*

(Riedleia, *Vent.* Mougeotia, *Kth.*)

Calyx 5-fid. *Petals* 5. *Column* adhering at the base to the petal-claws, divided into five filaments, or entire: anthers bilocular. *Styles* 5, distinct or united below. *Capsule* 5-locular, 5–10-seeded. *Embryo* straight, enclosed by endosperm: cotyledons foliaceous. —Shrubs *or* herbs; leaves *penninerved* (i. e. *with excurrent veins*).

Sect. 1. EUMELOCHIA.—*Capsule loculicidal, with the dissepiments cohering, at length separating from the filiform axis. Column divided to the adnate base.*—Flower-fascicles axillary and terminal: flowers purple, devoid of an involucel.

9. **M. pyramidata,** *L.* Suffrutescent; *leaves glabrous*, oblong-lanceolate, crenate-serrate; flower-fascicles opposite to the leaf, few-flowered: peduncle nearly as long as the petiole; calyx somewhat exceeded by the corolla: lobes lanceolate, acuminate; stamens united only at the adnate base; styles subdistinct; *capsule pyramidal,* 5-angled: *angles cuspidate at the base* externally.—*Sl. t.* 139. *f.* 1; *Cav. Diss. t.* 172. *f.* 1; *As. Gr. Gen. Bor. Amer.* 2. *t.* 134.—Stem 1′–2′ high: branches marked with a pubescent, longitudinal line; leaves 1″–2″ long; petals red, with yellow claws, obovate, 3‴ long; capsule 3‴ long: diameter at the base (with the points included) 5‴.—HAB. Jamaica!, *Macf.;* Bahamas!; Antigua!, *Nichols.;* Dominica!, *Imr.;* [Texas!, Mexico!, Cuba!, Haiti!, Venezuela!, Guayaquil!, Brazil!].

10. **M. tomentosa,** *L.* Shrubby; *leaves* usually *tomentose*, plicate-veined, tapering from the ovate or subtruncate base, crenate or obtuse-serrate; flower-fascicles mostly terminal on short branches, peduncled; calyx twice exceeded by the corolla: lobes lanceolate, acuminate; stamens united only at the adnate base; styles distinct; *capsule trapezoid-pyramidal,* tomentose, 5-angled: angles somewhat pointed externally.—*Sl. t.* 138. *f.* 2, 3; *Cav. Diss. t.* 172. *f.* 2.—M. frutescens, *Jacq.*—A shrub, 2′–5′ high: branches tomentose and glabrate; leaves 2″–4‴ long, bluntish or rounded at the top; petals purple, clawed, obovate, 6‴ long; capsule 2‴–3‴ long and broad, shortly stalked.—A variety of this appears to be

β. *crenata*, Vahl. Leaves small, oval-roundish, blunt, crenate; "capsule oblong: angles rounded."—*Vahl, Symb.* 3. *t.* 68.—Riedleia, *DC.*—Leaves 4‴–6‴ long, either tomentose (*Vahl*) or glabrous (*Hb. Benth.*). Our Turk Islands specimens have the small leaves of this, but with the white tomentum only on their under side: in their shape and serratures they are not distinguished from *a*, nor in the capsule and its wings.—HAB. Jamaica!, *M'Nab, Al., March,* in dry pastures; Turk Islands, *Hjalmars.;* Antigua!, *Nichols.;* S. Vincent!, *Anders.* (β); [Cuba! and Mexico! to Venezuela! and Brazil!].

Sect. 2. RIEDLEIA.—*Capsule septicidal and loculicidal. Column divided into subulate filaments, which cohere sometimes at the top.*—Flowers surrounded by a three-leaved involucel, purple, glomerate: clusters spicate; stipules striate, ovate-lanceolate, equalling the short petiole.

11. **M. serrata,** *Benth.* Shrubby, *pilose;* leaves ovate or ovate-oblong, bluntish, coarsely duplicate-serrate: hairs chiefly on the veins; *flower-clusters in a terminal interrupted spike,* and axillary; calyx half the length of the linear involucel-leaves: lobes lanceo-

late, acuminate; petals exserted; *column cohering at the top*, split in the middle, *exceeded by the styles;* styles united below; capsule villous, globose, septicidal and loculicidal.—*Sl. t.* 138. *f.* 1; *Vent. Choix. t.* 37.—Riedleia, *Vent.* Meloch. hirsuta, *Rich. Cub.* (*non Cav.*).—A shrub, about 2′ high, variable in the density of the long, soft hairs; leaves 1″–1½″ long, often subcordate at the base; petals purple, with yellow claws, spathulate, 5‴–6‴ long, a little exceeding the involucel; capsule included within the calyx: valves 1½‴ long.—Hab. Jamaica!, *Macf.*, *Al.*, *March*, in pastures of the northern and central districts, S. Ann's, S. Thomas in the Vale; Trinidad!, *Lockh.;* [Cuba! and Mexico! to Brazil! and Peru!].

12. **M. hirsuta,** *Cav.* Shrubby, *villous-lanuginose;* leaves ovate-oblong, bluntish, appressed, duplicate-serrate, velvety and villous; *flower-clusters in a terminal, oblong, compact spike*, inferior distant; calyx half the length of the linear involucel leaves: lobes ovate, pointed; petals exserted; *column* 5-*fid, exceeding the styles;* styles united below; capsule . . . .—*Cav. Diss. t.* 174. *f.* 1: male.—M. vestita, *Benth.:* a very villous form.—A virgate shrub, densely covered with soft hairs; leaves 1½″ long, usually subcordate at the base; flowers larger than in the preceding, the petals in the same proportion to the involucel.—Hab. S. Lucia!, *Anders.;* Trinidad!, *Cr.;* [Haiti!, Panama!, Guiana!, Bahia!].

Sect. 3. Mougeotia.—*Capsule pentacoccous. Column* 5-*fid, or nearly entire to the anthers.*

13. **M. nodiflora,** *Sw.!* Shrubby, glabrate; leaves ovate, pointed, serrate; *flowers glomerate: clusters axillary*, much exceeded by the petiole; calyx a little exceeded by the corolla: lobes deltoid, pointed; *column entire:* anthers sessile; styles distinct; capsule subglobose, 5-angular, hairy, a little exceeding the calyx: carpids at length distinct, tardily dehiscent along the ventral line.—*Sl. t.* 135. *f.* 2.—Mougeotia, *Kth.* Riedleia, *DC.*—A shrub, 2′–6′ high, puberulous in the younger parts; leaves 3″–2″ long: inferior petioles 1″ long, superior decrescent; calyx 1½‴ long; petals spathulate, reddish-white, nearly equalling the column and the styles; capsule subdepressed, 2‴ diam.—Hab. Jamaica!, *Macf.*, *M'Nab*, *Al.*, *Wils.*, *March*, common in fences; Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [Cuba!, Mexico!, Panama!].

14. **M. lupulina,** *Sw.!* Shrubby; leaves ovate, pointed, subcordate at the base, duplicate-serrate, glabrescent or subpubescent with a scattered down; *flowers fascicled: clusters axillary*, many-flowered: peduncle short, much exceeded by the petiole; *calyx* nearly equalling the corolla, *at length inflated:* lobes deltoid, pointed; *column* 5-*fid to the middle;* styles distinct; capsule subglobose, 5-angular, much smaller than the enlarged calyx: carpids at length distinct, tardily dehiscent along the ventral line.—*Kth. Nov. Gen. t.* 484.—Mougeotia inflata, *Kth.* (Riedleia, *Macf.!;* Melochia, *Benth.*).—A branched shrub, 3′–5′ high, pubescent in the younger parts; leaves 2½″–4″ long, about twice as long as the pubescent petiole; calyx 1½‴ long, and at length 4‴ long and 3‴ broad, broadly campanulate; petals oval, white, with a yellow spot: limb twice the length of the claw; capsule puberulous, 1½‴ diam.—Hab. Jamaica!, *Macf.*, *Wils.*, in moist thickets (resembling the bramble, *Wils.*); [New Granada!, Ecuador!, Peru!].

15. **M. venosa,** *Sw.!* Shrubby; leaves ovate, pointed, serrate, pubescent beneath and on the veins of the upper side; *flowers fascicled: clusters arranged in a terminal, interrupted raceme:* peduncles short; calyx twice exceeded by the corolla: lobes lanceolate, pointed; stamens monadelphous, somewhat cohering at the top; styles distinct; capsule subglobose, villous: carpids at length distinct and dehiscent along the ventral line.—Riedleia, *DC.* R. jamaicensis, *DC.* R. virgultosa, *Macf.* Melochia jamaicensis, *Berter.* M. depressa, *L.?* (*non Cav.*).—In habit it resembles *M. serrata*, but is easily distinguished by the pedicellate, yellow flowers. A shrub, 2′–3′ high; petals obovate, 4‴ long; capsule 2‴ diam.—Hab. Jamaica!, *Houston*, *March*, in dry situations, in the district of S. Andrew's.

M. odorata, L. fil. (*Cav. Diss. t.* 173. *f.* 2), a high tree of the Pacific islands and the East Indies has been introduced into Jamaica.

6. WALTHERIA, *L.*

Calyx 5-fid with a lateral involucel. *Petals* 5. *Column* adhering to the base of the petal-claws, entire, or divided into 5 filaments. *Carpel* solitary: styles simple, slightly la-

teral, with the stigma usually penicellate. *Pericarp* bivalved, monosperm. *Embryo* straight, enclosed by endosperm: cotyledons foliaceous.—Shrubs *or* herbs; flowers *glomerate: clusters mostly axillary, peduncled or sessile.*

16. **W. americana,** *L.* *Velvety-tomentose* (rarely glabrescent); leaves ovate, oblong or lanceolate-oblong, plicate, crenate or toothed; clusters usually peduncled; calyx and ovary lanuginose; *column entire,* half the length of the spathulate petals.—*Cav. Diss. t.* 170, 171.—W. indica, *L.:* the form with sessile flower-clusters. W. arborescens, ovata, elliptica, microphylla, *Cav.* W. angustifolia, *Kth.*—A suffrutescent or shrubby plant, 4′–6′ high, polymorphous in the shape of the leaves, the size of the flower-clusters, and their arrangement; clusters compound; calyx nearly equalling the involucel: lobes subulate: petals yellow.—Hab. Jamaica!, *Dist., Al., Wils., March,* common in pastures and thickets; Bahamas!, S. Vincent!, *Guild.;* Trinidad!, *Lockh., Cr.;* [all tropical countries of the globe, and beyond their northern limits, viz. Cuba! and Mexico! to Brazil!, Canary Islands! to tropical Africa!, Madagascar! to East Indies! and China!, northern Australia!, New Caledonia!, Sandwich Islands!].

W. glabra, Poir., is hitherto confined to Guadeloupe!, distinguished by general glabrousness, and by the column divided almost to the middle into distinct filaments: its synonyms are *Riedleia Berteriana,* DC. (Deless. Ic. 3. t. 23), and *Walth. lævis,* Schrk. (H. Monac. t. 55), a form with ciliate calyx-lobes.

Of the tribe of *Dombeyaceæ, Pentalopes phœnicea,* L., an East Indian annual, has been introduced into Jamaica!, *March.*

XXIX. TILIACEÆ.

Calyx valvate, usually deciduous. *Stamens* hypogynous, mostly distinct and indefinite: anthers bilocular. *Pistil* syncarpous: carpids definite: seeds albuminous.—Leaves *stipulate.*

In their properties they accord with *Malvaceæ,* being as well mucilaginous as fibrous plants: thus *Triumfetta semitriloba* and *Corchorus* yield good fibres in Jamaica. *Corchorus olitorius* is a pot-herb, affording a substitute for Spinach. The seeds of the same plant and the bark of *Muntingia* (*Guasem*) are drastic drugs. Among the timber-trees, *Sloanea jamaicensis* (Iron-wood, or Break-axe-wood) is remarkable for its toughness. *S. Massoni* is also used.

Tribe I. *GREWIEÆ.—Sepals distinct. Anthers ovoid or roundish, dehiscent by longitudinal fissures: connective not produced.*

1. TRIUMFETTA, *L.*

Sepals 5, usually apiculate below the top. *Petals* 5 (–0), opposite to as many hypostemonal glands. *Stamens* (5–)10–30, surrounded at the base by a short cupule. *Ovary* 2–5-celled: cells biovulate and partitioned by a spurious dissepiment: style simple, with the stigma-divisions minute or obsolete. *Achenium* glochidiate; embryo straight. cotydelons foliaceous.—Suffrutescent herbs *or* shrubs; peduncles *opposite to the leaf, or superior racemose:* pedicels *fascicled, at length cernuous;* flowers *yellow, with the calyx coloured.*

The descriptions in this genus, as given by older authors, are incomplete; the species however are numerous, though nearly related, and most variable in the shape of the leaf.

1. **T. Lappula,** *L.* Suffrutescent, *velvety* with stellate down; leaves roundish or lobed, unequally toothed: *lowest teeth heteromorphous,* transformed into blunt glands; flowers racemose: pedicels equalling the fruit; sepals hairy, apiculate; *petals* 0; stamens 10; stigma bifid; *achenium globose, bilocular, glabrous: glochides hairy, equalling its diameter.—Plum. t.* 255; *Desc. Fl.* 2. *t.* 101.—Stem 2′–5′ high; calyx $1\frac{1}{2}'''$ long, yellowish; achenium (without the glochides) 2‴ diam.—Hab. Jamaica!, *Macf.,* a common weed; S. Vincent!, *Guild.;* [Guadeloupe!, Martinique; Mexico!, Panama!; Cape Verde Islands!].

2. **T. macrophylla,** *Vahl.* Suffrutescent, *velvety* with stellate down; leaves ovate-roundish, pointleted, unequally toothed: *lowest teeth heteromorphous,* transformed into blunt glands; flowers shortly racemose: pedicels exceeded in length by the calyx; sepals pubescent, apiculate; *petals oblong;* stamens 15; stigma 4-fid; *ovary 4-locular;* achenium . . .—Leaves 5″–3″ diam.; calyx 3‴ long, equalling the petals.—Hab. Trinidad!, *Cr.;* [Guiana].

3. **T. althæoides,** *Lam.* Suffrutescent, *velvety* with stellate down; leaves roundish or lobed, unequally toothed, upper ones lanceolate: *lower teeth homomorphous* (sometimes glandular at the top); flowers racemose: pedicels equalling the fruit; sepals hairy, apiculate; *petals oblong;* stamens 10; stigma obsoletely toothed; *achenium ovoid-globose, 3-4-locular, glabrous: glochides* hairy, equalling *its diameter.*—Calyx $2\frac{1}{2}'''$ long, equalling the petals; achenium $2'''$ long, $1\frac{1}{2}'''$ broad (without the glochides).—The leaves are much more velvety than in *T. semitriloba*, which it approaches however perhaps too nearly, the chief difference consisting in the glochides covered with retrorsely bent hairs.—Hab. Antigua!, *Nichols.;* Dominica!, *Imr.;* [Bermudas!, Cuba!; Guiana!, Brazil as far south as S. Katherine!].

4. **T. semitriloba,** *L.* Suffrutescent, *pubescent* with stellate down, rarely velvety, sometimes glabrescent on the upper side of the leaves; leaves roundish, 3(-5)-lobed or subentire, unequally toothed, upper ones lanceolate: *lowest teeth homomorphous;* flowers interruptedly racemose: pedicels equalling the fruit; sepals hairy, apiculate; *petals spathulate;* stamens 15; stigma obsoletely toothed; *achenium ovoid-globose, 2-locular,* usually 4-spermous, *glabrous: glochides glabrous, equalling its diameter.—Jacq. Amer. Pict. t.* 133; *Desc. Fl.* 2. *t.* 102.—T. heterophylla, *Lam.* T. havanensis, *Kth.* T. ovata, *DC.* T. ulmifolia, *Desv.* T. diversiloba, *Prl.* T. angulata, *Lam., partim, ex W. Arn. et specim. Wallich.* T. rhomboidea, *Auct.* (*non Jacq.*).—Stem 4′-6′ high; calyx $3'''$ long, equalling the petals; achenium $1\frac{1}{2}'''$ long, $1'''$ broad (without the glochides).—This is the most common, and consequently the most variable, species of the genus, not to be distinguished from *T. rhomboidea*, Jacq., by the leaves, but sufficiently so by the glabrous and usually bilocular fruit; the specific value of the characters, derived from the number of the stamens and the fruit-cells, appears doubtful in this genus, but the shape of the ripe fruit and the glochides afford useful marks of distinction.—Hab. Jamaica!, *Dist., Al., March, Wils.*, a common weed; S. Vincent!, *Guild.;* Trinidad!, *Sieb.;* [all tropical countries of the globe; *e. g.* Cuba! and Mexico! to Venezuela! and Guayaquil!; tropical Africa; East Indies!].

5. **T. rhomboidea,** *Jacq.* Shrubby; branches scabrous with small, stellate bristles; leaves roundish, unequally toothed (usually angular and pointed), glabrescent above, pubescent beneath, upper ones oblong: *lowest teeth homomorphous;* flower-fascicles distant: pedicels equalling the fruit; sepals hairy, shortly apiculate; *petals spathulate;* stamens 15; stigma 3-5-fid; *achenium globose,* 3-5-*locular, hoary-tomentose: glochides glabrous, half as long as its diameter.—Jacq. Amer. Pict. t.* 134.—T. rhombeifolia, *Sw.*—A shrub, 3′-4′ high: branches subdichotomous; calyx nearly $3'''$ long; achenium $1\frac{1}{2}'''$ diam. (without the glochides), densely covered with hairs.—Hab. Jamaica!, *Macf., Dist., Al., Wils.*, common; S. Vincent!, *Guild.;* [all tropical countries of the globe, *e.g.* Martinique!, Guayaquil!, Brazil!; Senegambia!, Niger!, East Indies!].

6. **T. hispida,** *Rich.* Suffrutescent, hairy with simple hairs and short stellate down; leaves ovate or ovate-roundish, unequally toothed, pubescent: *down of the under side stellate:* lowest serratures homomorphous; flower-fascicles somewhat distant: pedicels equalling the flower; *sepals densely covered with a whitish villous down,* long-apiculate; petals oblong; stamens 20-15; stigma minute, subentire; *achenium* (immature) globose, *pubescent:* glochides equalling its diameter.—Leaves nearly $1''$ long; calyx $3'''$ long.—Hab. Jamaica!, *Bancr., March;* [Cuba; Panama!].

7. **T. grossularifolia,** *Rich.* Suffrutescent, hairy with scattered, *mostly simple hairs; leaves ovate,* entire or shortly 3-lobed, unequally serrate, upper ones oblong-lanceolate: lowest serratures homomorphous; flower-fascicles distant: pedicels equalling the flower; sepals hairy, apiculate; *petals oblong;* stamens 20 (-10); stigma minute, subentire; *achenium* (immature) ovoid-globose, 2-3-locular, *glabrous: glochides glabrous,* equalling its diameter. —*Rich. Cub. t.* 21.—Leaves $2''$-$3''$ long, $1\frac{1}{4}''$-$2''$ broad; calyx $2'''$-$3'''$ long, equalling the petals.—The simple soft hairs of the stem and of the leaves, which are green on both sides, afford characters to distinguish this species from all the preceding ones.—Hab. S. Vincent!, *Guild.;* [Cuba!].

8. **T. grandiflora,** *Vahl.* Suffrutescent or shrubby: branches villous with flexuose hairs; leaves broadly ovate, pointed, unequally crenate-toothed, hairy with scattered, *mostly simple hairs,* or glabrescent, upper ones lanceolate: lowest serratures homomorphous; flower-fascicles distant: *pedicels much longer than the fruit; sepals glabrous,* apiculate; petals obovate; stamens 20; stigma 5-fid; *achenium* (immature) globose, 5-locular, *glabrous:*

glochides glabrous.—T. polyandra, *DC.*—Sepals lanceolate-linear, 8''' long, exceeding the corolla, equalling the pedicel; petals 6''' long.—HAB. Montserrat (*Vahl*); Dominica!, *Imr.*; [Mexico!].

2. CORCHORUS, *L.*

Sepals 5 (-4). *Petals* 5 (-4). *Stamens* ∞ (-4), distinct. *Ovary* 2-5-celled: style simple, with the stigma obsoletely toothed. *Capsule* loculicidal, usually elongated: seeds indefinite; embryo incurved, with the cotyledons foliaceous.—Herbs *or* shrubs; peduncles *short, one- or few-flowered, opposite to the leaf;* flowers *yellow.*

Sect. 1. EUCORCHORUS.—*Stamens hypogynous; cupule none.*—Suffrutescent, usually annual herbs.

9*. **C. olitorius,** *L.* Glabrous; leaves ovate-oblong or ovate, pointed, serrate: *two lowest serratures* pointing backward and *terminating in a long bristle;* flowers subsolitary; petals spathulate, equalling the sepals; stamens indefinite; *capsule* glabrous, *linear*, straightish, corniculate at the top with 5 short points, 5-*locular: spurious transverse dissepiments complete.*—*Bot. Mag. t.* 2810.—Stem herbaceous, 6'-9' high; leaves 5'' long, or smaller; petals 3'''-4''' long; capsule 2'' long, 2''' diam., subcylindrical, torulose.—HAB. Naturalized in Jamaica!, *Wils.*; Trinidad!, *Cr.*; [introduced from the East Indies or tropical Africa].

10. **C. æstuans,** *L.* "Stem glabrous, with a line of pubescence; leaves ovate, acuminate, serrate: *two lowest serratures* pointing backward and *terminating in a short bristle;* flowers fascicled; *capsule* puberulous, *linear*, straight, corniculate at the top with 3 bifid teeth, 3-*locular.*"—*Br. Jam. t.* 25. *f.* 1; *Jacq. H. Vind.* 1. *t.* 85.—C. campestris, *Macf.*—I have not seen this plant, which is said to resemble much *C. siliquosus;* the diagnosis is taken from the quoted figures.—HAB. Jamaica (*P. Br.*, *Macf.*), not common; [Guiana].

11. **C. acutangulus,** *Lam.* Stem hairy; leaves ovate, pointed, glabrescent, serrate: *serratures equal;* flowers subfascicled (usually 2-1); *capsule* glabrous, *oblong-linear, 6-angled*, with 2 or 3 of the angles winged, straight, corniculate at the top with 3 entire or bifid points, 3-*locular:* spurious tranverse dissepiments incomplete.—*Wight, Ic.* 3. *t.* 739.—Capsule 8''' long, 2''' diam.—My diagnosis is taken from African specimens.—HAB. West Indies (*Benth.*), *e.g.* Barbadoes; [all tropical continents].

12. **C. siliquosus,** *L.* Glabrous; leaves ovate, acuminate, or oblong-lanceolate, serrate: *serratures equal;* flowers fascicled (4-1); petals obovate or spathulate, usually somewhat exceeded by the narrow sepals; stamens ∞-"4;" *capsule* glabrous, and puberulous along the sutures, *linear*, straight, corniculate at the top *with two bifid teeth, 2-locular:* spurious transverse dissepiments none.—*Sl. t.* 94. *f.* 1; *As. Gr. Gen. Bor. Amer.* 2. *t.* 137: the capsule-teeth are wanting, but I see no difference in North American and West Indian specimens.—A suffrutescent herb, 1'-3' high: stem usually with a single line of minute hairs; leaves 1½''-3'' long, but often much smaller; petals about 2''' long; capsule 2½''-½'' long, 1''' broad, subcompressed, not torulose.—HAB. Jamaica!, *Macf.*, *Wils.*, *March*, common along roadsides; Antigua!, *Nichols.*; S. Vincent!, *Guild.*; [Florida! to Texas!; Cuba!, Haiti!; Panama!, New Granada!].

13. **C. hirtus,** *L.* Stem hairy; leaves ovate-lanceolate or oblong, glabrescent, crenate-toothed: *teeth equal;* flowers fascicled (3-1); petals spathulate; stamens indefinite; *capsule* hairy, *linear*, curved at the base, *acuminate at the top* with the point entire, 2-*locular:* spurious transverse dissepiments none.—*Plum. t.* 103. *f.* 2; *Jacq. H. Vind.* 3. *t.* 58.—C. tortipes, *St. Hil.*—A suffrutescent herb: hairs scattered; leaves 1''-2'' long; petals 3'''-2''' long; capsule 1''-1¼'' long, 1½''' diam., subtorulose.—HAB. Antigua!, *Nichols.*; [Guadeloupe!; Venezuela!, Brazil!].

Sect. 2. GUAZUMOIDES.—*Stamens inserted into the top of a short gynophore, surrounded at the base by a repand cupule.*—Shrubs.

14. **C. hirsutus,** *L.* Tomentose; leaves ovate-lanceolate or oblong and blunt, crenate, hoary chiefly beneath; pedicels (8-2) umbellate, nearly as long as their peduncle; petals obovate-oblong, equalling the calyx; stamens indefinite; *capsule* furfuraceous-lanuginose, *oblong, blunt, curved, with the pedicel* 4-*locular.*—*Jacq. Amer. Pict. t.* 157.—C. lanugi-

nosus, *Macf.!*—A shrub, 2′–6′ high: leaves 1″–2″ long, variable in shape, down, thickness of veins, and regularity of crenatures; sepals tomentose, 3‴ long; capsule 6‴ long, 2‴–3‴ thick, nearly as long as the pedicel.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*; Bahamas!, *Swains.*; [Cuba!, Portorico!, S. Thomas!, S. Croix!, S. Martin]: chiefly on the seacoast.

3. MUNTINGIA, *L.*

Sepals 5 (–7). *Petals* 5 (–7). *Stamens* indefinite, distinct. *Ovary* 5(4–6)-celled: stigma sessile, pyramidal, with as many angles. *Pericarp* baccate: seeds very numerous, minute, ovoid, affixed to laminar placentas, which divide the cells; embryo cylindrical, axile, with the cotyledons nearly equalling the radicle.—A tree *or* shrub; pedicels *axillary, fascicled or solitary;* flowers *white.*

The pedicels are enlarged at the top into a sort of disc, which has been taken for a calyx-tube, but is persistent.

15. **M. Calabura,** *L.*—*Sl. t.* 194; *Jacq. Amer. Pict. t.* 158; *Tuss. Fl.* 4. *t.* 21; *Desc. Fl.* 5. *t.* 368.—A low tree, 10′–30′ high, sometimes reduced to a dwarfish shrub; branches villous or glandular, leafy; leaves 6″–2″ long, oblong, or oblong-lanceolate, acuminate, semicordate at the base, velvety above, hoary-tomentose beneath: petiole 3‴–1‴ long, nearly equalling the linear stipules; pedicels 1′–1½″ long; petals 6‴ long, obovate, scarcely exceeding the filiform point of the lanceolate sepals; torus hairy; berry globose, red, 6‴–8‴ diam.

α. Branches covered with glands; leaves oblong, much exceeding the pedicels.

β. *trinitensis*, branches villous, not glandular; leaves oblong-lanceolate, twice the length of the pedicels.

HAB. Jamaica!, *Macf.*, *Al.*, *March*, *Wils.*, common in the lower hills (α); Trinidad!, *Pd.*, *Cr.* (β); [Haiti!; Mexico! to Ecuador!, and equatorial Brazil!].

TRIBE II. *SLOANEÆ.—Sepals connate at the base (or in the inner whorl distinct). Anthers oblong, or linear: connective produced beyond the cells.*

4. APEIBA, *Aubl.*

Calyx deeply 5(–4)-partite. *Petals* 5 (–4). *Stamens* indefinite: anthers oblong, introrse, produced above the cells into a foliaceous point. *Ovary* 8- or many-celled: ovules indefinite; style simple, with an enlarged, incurved stigma. *Capsule* echinate, or muricate: cells pulpy.—Trees *or* shrubs; leaves *alternate;* inflorescence *lateral, opposite to the leaves.*

16. **A. Tibourbou,** *Aubl. Leaves* oblong, acuminate, cordate at the base, *serrate-toothed*, glabrate above, *hirsute beneath* with stellate down: petioles and branchlets villous; peduncles few-flowered; calyx-segments lanceolate, spreading, glabrous internally, densely hirsute externally, exceeding the obovate petals; exterior series of stamens connate at the base; style exserted; ovary 20–10-locular; "capsule echinate."—*Aubl. t.* 213.—A shrub, or low tree, 8′–10′ high; leaves 6″–8″ long; flowers golden-yellow, highly fragrant (*Pd.*); calyx 6‴–8‴ long; stamens multiserial: appendage of anthers pointed or emarginate, half the length of the cells, which open first at the adnate top and at length by longitudinal fissures; "capsule depressed, orbicular, dehiscent at the base, 3″–4″ diam."—HAB. S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, near Fort George; [Mexico!, Panama!, New Granada! (chiefly in hot savannahs: *Pd.*), Guiana!, Brazil! as far as Minas Geraes!].

5. SLOANEA, *L.*

Calyx-segments 4–5–8, uni-biseriate. *Petals* 0. *Stamens* indefinite: anthers elongated, corniculate at the top. *Ovary* 4–5-locular: ovules several in each cell; style simple or divided at the top. *Capsule* woody, echinate, loculicidal: seeds arillate. *Embryo* straight, with large, subcarnose cotyledons: albumen thin.—Trees; leaves *alternate; inflorescence axillary.*

This genus is remarkable from exhibiting in several species structural exceptions from the otherwise universal character of the Order, namely, a persistent calyx in *S. sinemariensis*, and monadelphous stamens in *S. synandra*, Spruce, MSS.

17. **S. jamaicensis,** *Hook.!* Leaves oblong, acuminate, subentire, glabrous: stipules

small, caducous; *pedicels solitary*, cernuous; *calyx biseriate*, velvety: exterior 4-partite, with the segments ovate, pointed, interior 4-phyllous, with the sepals half as broad, and somewhat shorter, trifid or subentire; *stamens pubescent*, exceeded by the outer calyx: *filaments very short: anthers* oblong-linear, *opening by infraterminal pores, much exceeding their appendage*, half as long as the simple style; capsule 4-locular, globose.—*Hook. Ic. t.* 693–696.—A high tree, 60′–100′ high, often 4′ in diam.; outer calyx 6‴, inner 4‴–5‴ long; anthers 2‴ long, subcordate at the base and tapering at the top towards their bluntish, short appendage; capsule 3″–4″ diam., echinate with straight bristles; seeds "enveloped in a scarlet pulp."—HAB. Jamaica!, *Pd.*, in the mountains of S. Anns.

18. **S. Massoni,** *Sw.!* Leaves oval, rounded at the top, subentire or obsoletely toothed, glabrate: petiole pubescent: stipules linear, elongated; *flowers racemose:* racemes pubescent, much exceeded by the leaf; *calyx uniseriate*, 5–6-partite: segments oblong-lanceolate, acuminate; *stamens pubescent*, exceeding the calyx: *filaments* linear, *as long as the anthers: anthers* subulate-linear, opening by oval pores, which at length pass into lateral fissures, *with the filiform appendage as long as the cells;* style exserted, 5(–4)-fid, with the branches linear (sometimes cohering), and the stigmas minute; "capsule 4-locular, subglobose."—A high tree; leaves usually 8″–12″ long: stipules 6‴ long; racemes 8–12-flowered, somewhat compound: pedicels 6‴ long, subunilateral; calyx 3‴, stamens 4‴ long. Swartz's description is erroneous in several particulars (viz. "the short filaments and a simple style").—HAB. Dominica!, *Imr.;* S. Kitts!, *Masson;* [Guiana].

19. **S. sinemariensis,** *Aubl.!* Glabrous; leaves oval, rounded at the top or with a blunt point, subentire: *petiole* tumid at both ends, *shorter than or equalling the limb:* stipules minute, caducous; *flowers corymbose:* corymb shorter than or equalling the petiole; *calyx uniseriate*, 5-partite, persistent: segments small, lanceolate, puberulous; stamens . . .; *style* 4–5-*fid at the top*, equalling the capsule-bristles, with linear branches and minute stigmas; capsule ovoid-globose, 4–5-locular or unilocular by abortion, 5–1-seeded.—*Aubl. t.* 212.—S. Aubletii, *Sw.!*—Leaves 6″–8″ long, 3½″–4″ broad; corymbs 3–9-flowered; calyx 1‴, ovary 2‴ long: cells many-ovulate; style-branches short (sometimes cohering); capsule woody, subbivalved, 6‴ long, 5‴ broad, covered with straight, brownish, setaceous, pubescent, 2‴-long bristles; seeds ovoid-globose, almost wholly enveloped within a pulpy arillus: embryo straight, with large, obovate, subcarnose cotyledons, thicker than the enclosing albumen-layer.—HAB. S. Kitts!, *Sw.;* Trinidad!, *Pd.*, *Cr.*, in the mountains of S. Anns; [Guiana!].

XXX. RHAMNEÆ.

Calyx valvate, 5–4-lobed. *Stamens* alternate with the calyx-lobes, inserted into the margin of a perigynous disc. *Pistil* syncarpous: ovules 1 (–2) in each cell. *Embryo* straight: radicle inferior; albumen scanty or none.—Shrubs *or* trees; leaves *simple, stipulate.*

Gouania domingensis yields a stomachic drug, *Colubrina reclinata*, a fermented drink (*Mabie* of S. Lucia). *Sarcomphalus laurinus* is one of the best timber-trees of Jamaica.

1. FRANGULA, *T.*

Calyx free from the ovary, at length circumscissile, leaving its cupulate tube below the fruit. *Petals* cucullate; disc thin. *Drupe* 3(2–4)-pyrenous: seeds not grooved, with a lateral raphe; cotyledons flat.—Leaves *alternate;* flowers *clustered in axillary cymules.*

1. **F. sphærocarpa,** *Gr. Leaves* elliptical, pointleted, *serrate, glabrous;* cymules umbelliform, exceeded by the petiole: peduncle nearly as long as the pedicels, simple, or simply divided; flowers perfect, 5-androus; *calyx shortly campanulate:* lobes as long as the tube, twice as long as the bilobed petals and stamens; style simple; stigma 3-globose; drupe globose: "seeds oblong."—Ceanothus, *DC.* Rhamnus sphærospermus, *Sw.!*—Habit of *Rhamnus alpina:* 10′–15′ high, unarmed; leaves 4″–3″ long, rounded at the base: principal veins 8–10 on each side, curved near the margin; petioles, younger branchlets, pedicels, and calyx slightly puberulous; calyx 1‴ long: tube equalling the style.—HAB. Jamaica!, *Pd.*, *Al.*, in the mountains, *e. g.* S. Anns, Port Royal.

2. CONDALIA, *Cav.*

Calyx free from the ovary, turbinate: lobes keeled on the inside. *Petals* 0: disc fleshy, surrounding the free ovary. *Drupe* with a 2-1-locular putamen: cotyledons flat.—Leaves *alternate, or approximate by pairs, glabrous, quite entire;* flowers *axillary, clustered or solitary.*

2. **C. ferrea,** *Gr.* *Unarmed; leaves* oval or lanceolate-oval, usually *emarginate,* or blunt, approximate by pairs; *cymes equalling the petiole,* umbelliform, shortly peduncled, or sessile; calyx deeply 5-fid: lobes spreading, pointed, nearly as long as the stamens; *stigma bilobed.—Vahl, Symb.* 3. *t.* 58.—Rhamnus, *V.* Zizyphus emarginatus, *Sw.* Ceanothus ferreus, *DC.* Scutia, *Brongn.*—A shrub: branchlets powdery, but soon entirely glabrous; leaves arch-nerved, variable, 20‴–12‴ long, 12‴–6‴ broad: petiole 2‴–3‴ long; calyx scarcely 1‴ long, spreading; filaments much longer than the anther, exceeding the pistil; ovary 2-locular: 5 stigma-lobes divergent, blunt.—HAB. Bahamas!, *Swains.;* Jamaica!, *Al.;* Dominica!, *Finl.;* S. Vincent!, *Guild.*

3. SARCOMPHALUS, *P. Br.*

Calyx free from the ovary, turbinate, at length circumscissile, leaving its entire base below the fruit: lobes spreading, keeled on the inside. *Petals* cucullate, long-clawed: disc filling up the calyx-tube, and closely surrounding the free ovary. "*Drupe* with a bilocular putamen: cells perforated at their upper end."—A tree: branchlets *thorny;* leaves *alternate, glabrous, quite entire;* flowers *cernuous, in axillary panicles: the divisions alternate along the peduncle, few-flowered, corymbiform.*

P. Browne's genus, which is here restored, was considered by Brongniart as a doubtful congener of *Condalia ferrea:* it is however distinguished (though nearly allied) by its perfect flowers, which resemble those of *Ceanothus,* by a thicker, glanduliferous disc, by its high, arboreous growth, and chiefly by the peculiar inflorescence, which recalls that of many *Laurineæ,* and is without analogy among the *Rhamneæ* I am acquainted with. The ripe drupe, which I have not seen, seems to afford another generic character, if the following description (quoted from *Lun. Ht.* 1. *p.* 120) is correct:—"Fruit purple, globose, ¾″ diam.; nut surrounded by a mealy, esculent pulp, ovate, penetrated above by 2 ovate holes, which lead to the cells."—Kunth has described the anthers as being posticous, and Brongniart adopts this structure as a differential character from all other *Rhamneæ,* with the exception of *Zizyphus havanensis:* in both plants however I find the anthers not very peculiar, the cells being short, and obliquely diverging from the connective, so that they burst upwards and somewhat laterally at the same time.

3. **S. laurinus,** *Gr.*—Rhamnus sarcomphalus, *L.;* Ceanothus, *DC.;* Scutia, *Brongn.*—A high tree, quite glabrous, with the exception of the puberulous peduncles and flowers; leaves ovate, or broadly oval, bluntly emarginate, arch-nerved, somewhat leathery, usually 2″ long, 1½″ broad: petiole 3‴–4‴ long; stipules minute; panicles about half as long as the leaf; calyx 1‴ long: lobes equalling the petals and stamens; ovary bilocular: stigma shortly bilobed.—HAB. Jamaica!, *Macf., March,* common in the southern districts.

4. COLUBRINA, *Rich.*

Calyx adnate at the base, spreading, at length circumscissile, with the persistent base adnate to the fruit: lobes keeled on the inside. *Petals* spathulate. *Ovary* immersed into the flat disc. *Capsule* tricoccous: cocci dehiscent on the inner side; testa polished.—Shrubs *or* trees; leaves *alternate;* flowers *clustered, in axillary cymules.*

4. **C. ferruginosa,** *Brong.* Arboreous; *branchlets rusty-tomentose; leaves* ovate or oblong, *quite entire,* rusty-tomentose beneath, or glabrate with the exception of the nerves; cymules umbelliform, peduncled, usually 2–3-nate, nearly as long as the petiole; calyx rusty-tomentose on the outside; *style 3-lobed at the top;* capsule subglobose, more than twice as long as the adnate cupule.—*Jacq. Amer. Pict. t.* 74; *Br. Jam. t.* 12. *f.* 1?—Rhamnus colubrinus, *L.* Ceanothus, *Lam.*—A low tree; leaves variable, blunt or pointed, subcordate, or rounded at the base, eglandular, arch-nerved (while those of *C. cubensis* are plicate, with excurrent, pinnate veins), the larger ones 6″ long; calyx 2‴ diam.: lobes ovate, as long as the petals; capsule black, 4‴ diam.—HAB. Bahamas!, *Swains.;* Jamaica!, *Al., March;* Antigua!, *Nichols.;* [Cuba!].

5. **C. reclinata,** *Brongn.* *Branchlets glabrescent; leaves* elliptical or elliptical-lanceolate, *quite entire, glanduliferous on the margin above the base,* glabrous or slightly puberulous and glabrescent beneath; cymules contracted; calyx puberulous on the outside; *style deeply 3-fid;* capsule globose, three times as long as the adnate cupule.—*P. Br. t.* 29. *f.* 2.—Ceanothus, *L'Hér.* Rhamnus ellipticus, *Sw.*—A shrub or low tree; leaves 3″–1″ long, 2″–6‴ broad, usually pointleted, blunt at the top, arch-nerved, long-petioled; calyx 1½‴ diam.; capsule purplish, 2‴–3‴ diam.—Hab. Jamaica!, *Macf., March,* in the mountains; S. Lucia!, S. Vincent!, *Guild.;* [Cuba!, Haiti!].

6. **C. asiatica,** *Brongn.* *Glabrous; leaves* ovate, *serrulate;* cymules shortly peduncled, exceeded by the petiole during anthesis; calyx glabrous; *style shortly 3-lobed;* capsule globose, obovate, three times as long as the adnate cupule.—*Cav. Ic. t.* 440. *f.* 1.—Ceanothus, *L.* Rhamnus, *Lam.*—A shrub: branchlets cylindrical, quite glabrous; leaves 2½″–1½″ long, arch-nerved, and somewhat triplinerved, long-petioled; calyx 1‴–1½‴ diam.; capsule 4‴ diam.; greenish; seeds roundish-oval, convex on the back, somewhat angular on the inside: cotyledons fleshy, flat, as thick as the albumen, which is divided, its two portions corresponding with the sides of the seed.—Hab. Jamaica!, *March;* [East Indies!, Pacific Islands].

5. REISSEKIA, *Endl.*

Calyx-tube adnate: lobes replicative-valvate. *Petals* cucullate: disc lining the calyx-tube, without free lobes. *Style* 3-fid. *Capsule* tricoccous, winged: the three wings bipartitioned by the separation of the indehiscent cocci.—Climbing shrubs, *bearing tendrils;* leaves *alternate, arch-nerved;* flowers *in peduncled, axillary, umbelliform cymes.*

The structure of the calyx-lobes is peculiar, the replicate margin being membranaceous, while there is an ovate, thickish area in the middle. If compared with *Gouania,* it appears that this area is covered by the disc, and that the difference of that genus consists chiefly in the calyx-lobes being free from the disc-lobes, which in *Reissekia* are adnate: the genus may, however, be retained, as by its inflorescence it is a link between *Colubrina* and *Gouania,* two types so remote from each other in other respects.

7. **R. smilacina,** *Endl.* Leaves cordate-oblong, pointleted, minutely serrate, glabrous or glabrate; *peduncles* usually *as long as the leaf;* capsule emarginate: wings three times as broad as the seed, somewhat spongy.—*Fl. Flum.* 2. *t.* 137.—Gouania, *Sm.* G. cordifolia, *Radd.* Celastrus umbellatus, *Fl. Flum.*—Branchlets slender, puberulous, at length glabrate; leaves 2″ long, the upper ones smaller; cocci 2‴ in the middle: wings 4‴ long, with a transverse diameter of 5‴–6‴.—Hab. Trinidad!, *Lockh.;* [Brazil!].

6. GOUANIA, *L.*

Calyx-tube adnate. *Petals* convolute-spathulate: disc 5-lobed, with the lobes free and opposite the calyx-lobes. *Style* 3-fid. *Capsule* tricoccous, usually winged: the three wings bipartitioned by the separation of the indehiscent cocci.—Climbing shrubs: *some of the branchlets transformed into tendrils;* leaves *alternate, penninerved;* flowers *clustered (partly incomplete): the clusters arranged along axillary and terminal, elongated peduncles.*

8. **G. domingensis,** *L.* *Leaves* elliptical, glabrous or *glabrate,* serrate: serratures blunt, distant: *veins tapering towards the margin;* racemes pubescent; *capsule winged,* glabrous, *emarginate:* the wings twice as broad as the cell.—*Jacq. Amer. Pict. t.* 264. *f.* 96.—G. glabra, *Jacq.*—Leaves usually 1½″–2″ long: the serratures either eglandular or with a minute gland, sometimes obsolete; capsule 3‴–4‴ long, 4‴–5‴ broad, with a deep terminal notch.—Hab. Jamaica!, *Macf.,* common; Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba, Guiana!, equatorial Brazil!].

9. **G. tomentosa,** *Jacq.* *Leaves* usually *tomentose or pubescent beneath,* ovate or ovate-oblong, subcordate at the base, crenate-serrate: *veins thickish the whole of their length,* and running into the glanduliferous serratures; racemes villous-tomentose; *capsule winged,* somewhat hairy, *subtruncate:* the wings twice as broad as the cell.—*Jacq. Amer. Pict. t.* 262. *f.* 71.—Nearly related to the preceding, and occurring sometimes with glabrate leaves; capsule smaller, very slightly emarginate, 2‴–3‴ long, 3‴–4‴ broad.

a. Leaves hoary-tomentose beneath.

β. pubescens, Lam. Leaves pubescent or glabrate beneath.—*Lam. Ill. t.* 845. *f.* 1.—Of this form I have seen the ripe capsule only: the Trinidad specimens are intermediate between both forms.—Hab. Trinidad!, *Cr.;* [Cuba!, Mexico! to Brazil!].

XXXI. AMPELIDEÆ.

Stamens 4–5, opposite to the valvate petals, inserted usually on the outside of an hypogynous disc. *Pistil* syncarpous: stigma simple: ovules 2 (–1) in each cell. *Embryo* minute, in the top of the hard, fleshy albumen: radicle inferior.—Woody plants, *mostly climbing by tendrils, which, like the peduncles, are opposite to the stipulate leaves.*

The sap contains several organic acids, of which some use is made in colonial medicine. The copious, aqueous sap of *Cissus sicyoides* and *Vitis caribæa,* which is analogous to the spring-sap of the grape-vine, affords a pleasant drink to travellers.

1. CISSUS, *L.*

(Spondylantha, *Prl.*)

Calyx short, subentire. *Petals* 4 (–5), distinct. *Disc* 4(–5)-lobed. *Ovary* 2-celled: cells 2-ovulate. *Berry* usually 1(–2)-seeded by abortion.—Flowers *small, umbellate: the umbels compound or trichotomous.*

1. **C. sicyoides,** *L.* Stem climbing by tendrils, obtusangled-terete; *leaves simple,* cordate-oblong, cordate, or ovate, glabrous (or puberulous): serratures setaceous, distant, appressed; rays of the general umbel simply bi-trichotomous; petals 4, greenish-yellow; style long; berry subglobose, black, one-seeded (4''' diam.).—*Sl. t.* 144. *f.* 1; *P. Br. t.* 4. *f.* 1. 2; *Jacq. Amer. Pict. t.* 20; *Desc. Fl.* 5. *t.* 309, 311; 7. *t.* 481.—C. ovata, *Lam.* C. smilacina, *Kth.* C. venatorum, *Desc.* C. latifolia, *Desc.* Spondylantha aphylla, *Prl.* (*Pl. Hænk.* 2. *t.* 53): a common monstrosity, with the inflorescence transformed into a system of equisetiform branches, as occurs likewise in *C. acida.*—A high climber.—Hab. Jamaica!, *Dist., Al., Wils., March;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba, Mexico! to New Granada!, Guiana!].

2. **C. trifoliata,** *L., Sw.* (*non Jacq.*). Stem climbing by tendrils, angular; *leaves trifoliolate: leaflets ovate,* glabrous, serrate, chiefly above the middle, or subentire, the lateral ones oblique*: serratures accumbent, distant,* setaceous; rays of the general umbel puberulous, usually bifid; *petals* 4, *scarlet* (together with the pedicels); style long; *berry* purple, *ovoid-globose* (3'''–2''' diam.), one-seeded.—*Plum. ed. Burm. t.* 259. *f.* 4; *Sl. t.* 144. *f.* 2; *Tuss. Fl.* 1. *t.* 16; *Desc. Fl.* 3. *t.* 167.—C. microcarpa, *V.* C. obovata, *V.:* the form with subentire leaflets. C. caustica, *Tuss.* C. intermedia, *Rich.:* a form with the leaflets cuneate at the base.—A high climber.—Hab. Jamaica!, *Dist., Al., March;* Caribbean Islands; [New Granada!].

3. **C. acida,** *L.* Stem climbing by tendrils: branchlets (together with the leaves) somewhat succulent, subterete-striated; *leaves trifoliolate: leaflets cuneate-obovate,* rounded at the top, glabrous, deeply toothed above the middle: *teeth contiguous, spreading,* broad, pointed; rays of the general umbel simple; *petals* 4, *greenish-yellow;* style long; *berry* black, *globose* (2''' diam.), one-seeded.—*Plum. ed. Burm. t.* 259. *f.* 5; *Sl. t.* 142. *f.* 6; *Jacq. Schœnbr.* 1. *t.* 33; *Desc. Fl.* 5. *t.* 348.—C. emarginata, *Sw.* C. alata, *Desc.*—A low climber.—Hab. Jamaica!, *March,* in the low lands; Bahamas!, *Swains.*

C. rhombifolia, V., of Trinidad, is doubtful: it is to be compared with the hirsute *C. alata,* Lam. (C. trifoliata, *Jacq. Amer. Pict. t.* 259. *f.* 8. exclus. synon.).

2. VITIS, *L.*

Calyx short, subentire or obsoletely 5-lobed. *Petals* 5, cohering at the top. *Disc* 5-lobed. *Ovary* of *Cissus. Berry* 2(–4)-seeded.—Flowers *small, umbellate:* umbels *in dense panicles.*

4. **V. caribæa,** *DC.* Leaves broadly cordate, pointleted, glabrescent above, rufescent or whitish beneath with subtomentose down (which persists sometimes only on the nerves)

toothed: teeth terminated with a gland; *flowers polygamous*, in racemiform panicles; berry purple, globose (2‴–3‴ diam.): seeds obovate, flat on the ventral, convex and grooved on the dorsal side.– *Plum. ed. Burm. t.* 259. *f.* 3; *Sl. t.* 210. *f.* 4; *Desc. Fl.* 5. *t.* 310.—Cissus cordifolia, *L.* (*ex cit. Plum.*). Vitis indica, *Sw.* V. Labrusca, *Desc.* (*non L.*).—Young shoots occur with the leaves green on both sides, and obsoletely lobed (as in Sloane's figure). —HAB. Jamaica!, *Macf.*, *Al.*, *March;* Leeward Islands; [Cuba!, Mexico!, Venezuela!].

XXXII. TERNSTRŒMIACEÆ.

Sepals imbricative, in two or several 2–3-leaved whorls. *Stamens* indefinite, often adhering to the corolla at their base. *Pistil* syncarpous. *Embryo* cylindrical, or with the cotyledons foliaceous: albumen thin, or none.—Woody plants; leaves *simple, alternate, exstipulate, usually leathery.*

No general property is known, but that mucilage and tannic acid are present: the peculiar principle of *Thea* is confined to that genus.

1. TERNSTRŒMIA, *L.*

Sepals in three whorls: two exterior smaller, two in the middle, three interior. *Petals* 5, coherent at the base, staminiferous. *Anthers* linear, erect. *Ovary* 2–5-celled: cells 2–4-ovulate; style simple. *Pericarp* dry, cartilaginous: seeds wingless, albuminous. *Embryo* cylindrical, semiannular: radicle superior.—Shrubs, *or low* trees; leaves *polished:* veins *usually inconspicuous;* peduncles *axillary, simple;* flowers *white.*

1. **T. elliptica,** *Sw.*, *V.* Leaves spathulate or elliptical, bluntish, quite entire, without black dots: veins obsolete; *peduncles* solitary, about *twice as long as the petiole*, much exceeded by the leaf, subcompressed; sepals rounded (2‴–3‴ long); fruit ovate.—*DC. Ternstr. in Mém. Genève*, 1. *t.* 1: a narrow-leaved form.—T. meridionalis, *W.* (*non Sw.*): a name better suppressed, as Mutis's homonym is probably T. clusiifolia, *Kth.* (T. brevipes, *DC.*), which is distinguished by emarginate leaves. T. peduncularis, *DC.*, *Rich. Cub.* T. lineata, *DC.*—A low tree; leaves variable, 3″ long, 1½″–1″ broad; peduncles cernuous, about 8‴ long.—HAB. Dominica!, *Imr.*, in mountain-woods; [Cuba, Guadeloupe!, Mexico, Panama!].

2. **T. obovalis,** *Rich.* Leaves obovate or spathulate, rounded or subemarginate at the top, cuneate at the base, quite entire, without black dots: veins inconspicuous; *peduncles* solitary, nearly *as long as the leaf*, subcompressed; sepals roundish, submucronate (3‴–4‴ long); fruit globose.—*Rich. Cub. t.* 25.—T. meridionalis, *Sw.*, *V.*, *Macf.!*—A low tree; leaves stiff, revolute on the margin, 2½″–2″ long, 12‴–6‴ broad: petiole short, 1‴–2‴ long; fruit 6‴ diam.: seeds silky, scarlet.—HAB. Jamaica!, *Pd.*, in mountain-woods; Dominica (*Sw.*); [Cuba, Guadeloupe!].

2. CLEYERA, *Thunb.*

Sepals and *petals* of *Ternstrœmia. Anthers* erect. *Ovary* 3–2(–4)-celled: cells 2–4-ovulate; style 3–2(–4)-lobed. *Pericarp* baccate, at length dry. *Seeds* of *Ternstrœmia:* testa crustaceous.—Shrubs, *or low* trees; peduncles *axillary;* flowers *yellowish or white.*

3. **Cl. theoides,** *Planch.* (*MS.*). Glabrous or glabrate; *leaves* obovate-oblong or lanceolate-elliptical, tapering at the base, *serrate;* peduncles subsolitary, simple, cernuous, 3–4 times exceeding the petiole: bracteoles small, deciduous; sepals oval, ciliate (2‴ long); *anthers obovate, biporose,* mucronate, with a few bristles; style 3(–4)-lobed.—*Sw. Fl. t.* 19: *anal. Bot. Mag. t.* 4546.—Freziera, *Sw.* F. Nimanimæ, *Tul.!* F. ilicioides, *Tul.* F. elegans, *Tul.* Cl. elegans, *Chois.*—A low tree; leaves 2½″–2″ long, 12‴–8‴ broad, somewhat veiny beneath; petals whitish, exceeding the calyx; stamens included: anthers opening by two oblong, introrse pores, which are almost half as long as the cells; berry globose, purple: seeds oval, compressed, 1½‴ long, four in each cell, or fewer by abortion.—HAB. Jamaica!, *Macf.*, *Wils.*, in the higher mountains; [Cuba!, Guadeloupe; Veraguas!].

3. FREZIERA, *Sw.* (*exclus. sp.*).

Sepals of *Ternstrœmia. Petals* 5, distinct. *Anthers* erect. *Ovary* 3–5-celled: cells

multiovulate: stigmas distinct. *Pericarp* dry. *Seeds* of *Ternstrœmia*.—Trees; leaves *veined; flowers axillary, clustered, usually polygamous*.

4. **F. undulata,** *Sw.* Branchlets glabrate: down subsericeous, very early disappearing; *leaves lanceolate*, acuminate, oblique at the base, *obtusely serrate*, glabrous; flowers fascicled: *pedicels* nearly *as long as the petiole;* sepals rounded, ciliate, three times exceeded by the obovate-oblong petals: outer series half as long; stigma shortly 3-lobed.—F. Perrotetiana, *Tul.* Ternstrœmia salicifolia, *DC.* T. dentata, *Sieb. Mart.* 315!—A high tree; leaves 6″–3″ long, 20‴–12‴ broad: veins conspicuous on both sides, tertiary ones minutely reticulated; pedicels usually 3–5, 3‴ long; petals whitish, 3‴ long; stamens in ♀ provided with an oblong anther, but devoid of pollen; fruit globose, mucronate: cells about 6–8-seeded.—HAB. S. Kitts!, *Mass.;* Montserrat, Dominica!, *Imr.;* Trinidad!, *Sieb.*

5. **F. hirsuta,** *Sm.* Branchlets and petioles densely villous, or at length glabrescent: hairs long, spreading, ferruginous; *leaves oblong*, pointleted, oblique at the base, *obtusely serrate*, hairy beneath along the nerves; flowers glomerate: *pedicels* nearly as long as the calyx, *much exceeded by the petiole;* sepals rounded, ciliate, three times exceeded by the oval-oblong petals: outer series shorter; stigma 3-globose.—Eroteum undulatum, *V.* Ternstrœmia crenata, *Macf.* Nearly related to the preceding; but the down, which so soon disappears in the young branchlets of the latter, is quite different.—HAB. Jamaica!, *March;* S. Vincent!, *Guild.*

4. LAPLACEA, *Kth.*

(Hæmocharis, *Salisb.*)

Sepals in 3–2 whorls. *Petals* 5 (–10), distinct. *Anthers* roundish, incumbent. *Ovary* 5(–2)-celled: stigmas distinct. *Capsule* woody, loculicidal. *Seeds* compressed, produced at the top into an oblong, membranaceous wing: testa woody, in the cylindrical hole of which the straight exalbuminous embryo is imbedded.—Trees *or* shrubs; flowers *large, solitary, shortly peduncled*.

Gordonia is distinguished by leafy, biplicate cotyledons; *Stuartia* by the wingless seeds, and the albuminous embryo.

6. **L. hæmatoxylon,** *Camb. Branchlets* puberulous, *glabrescent; leaves elliptical, shortly petioled*, obtusely serrate, glabrous or glabrate; sepals 7, glabrous: exterior whorls smaller; petals 5, obcordate, white; ovary tomentose: stigmas 5, subsessile; capsule oblong-lanceolate, 5(–3)-angular: *cells 2-seeded*.—Gordonia, *Sw.*—A tree, 20′–30′ high; leaves bluntish at both ends, 3″–4″ long, 1½″–2″ broad; petals 10‴ long; capsule-valves 1″ long: seeds 2–3 times exceeded by the wing.—HAB. Jamaica!, *Macf.*, in mountain-woods.

7. **L. villosa,** *Gr. Branchlets villous; leaves obovate*, blunt, *subsessile*, crenate or subentire, villous or glabrate beneath: down persistent along the midrib; sepals 7, pubescent externally: exterior whorls smaller; petals 5, obovate, silky on the outside; ovary villous: styles 5; capsule oblong-linear, 5-angular: "*cells 5-seeded*."—Gordonia, *Macf.*!—A shrub, 5′–8′ high; leaves usually 2″ long, 1¼″ broad; capsule 1″ long.—HAB. Jamaica!, *Macf.*, in the mountains.

XXXIII. OCHNACEÆ.

Sepals imbricative: two exterior. *Stamens* inserted into a short carpophore: anthers articulated with the filament, long, opening with two terminal pores. *Pistil* mostly syncarpous: ovary usually 5-lobed. *Embryo* straight.—Woody plants; leaves *simple, alternate, stipulate, shining;* pedicels *articulated*.

No remarkable properties are known, but an astringent principle exists in the bark and pericarp, and a fat oil in the seeds.

1. GOMPHIA, *Schreb.*

Sepals 5. *Petals* 5. *Stamens* 10: anthers erect, oblong. *Ovary* deeply 5-lobed: cells uniovulate; style simple, central. *Drupes* 5 (–1), inserted into the convex carpophore. *Embryo* exalbuminous.—Leaves *petioled:* veins *curved, reticulated:* (stipules in the American species lateral); cymes *terminal, racemiform or paniculate*; flowers *yellow*.

1. **G. laurifolia,** *Sw. Leaves quite entire*, elliptical-lanceolate: veins prominulous;

panicle densely corymbiform: pedicels 6–10 *times as long as the globose bud; anthers without transverse furrows;* drupes globose.—*Ann. Mus.* 17. *t.* 15.—A tree, 15′–20′ high; leaves 3″ long, 1″ broad; buds before anthesis 1¼‴ long; sepals oval, as long as the petals.—Hab. Jamaica!, *Pd.*, *Macf.*, sparingly in rocky woods, S. Anns.

2. **G. guianensis,** *Rich. Leaves quite entire, or with small,* blunt, distant *serratures,* elliptical-oblong: veins delicate; *panicle* lax, *corymbiform: pedicels about twice as long as the* large, *ovate,* blunt *bud; anthers without* distinct *rugosities;* drupes "globose." —*Aubl. t.* 152; *Ann. Mus.* 17. *t.* 20, 24.—Ouratea, *Aubl.* G. nitida, *DC.* (*not Sw.*) G. Candollei, *Planch.* G. jamaicensis, *Planch.!*—A tree, remarkable by its flowers, which are larger than in the other West Indian species; leaves 4″–2½″ long, 2¼″–1¼″ broad, leathery, variable in being blunt or pointed at both ends; buds before anthesis 4‴ long; sepals oval, a little shorter than the petals.—Hab. Jamaica!, *Macf.*, *Al.*, in the district of S. Anns; [French Caribbean Islands, Guiana, equatorial Brazil].

3. **G. longifolia,** *DC. Leaves quite entire,* or with obsolete serratures above, *oblong, acuminate,* rounded or subcordate at the base, shortly petioled; *panicle lax, spreading: pedicels somewhat longer than the large, ovate, blunt bud;* petals as long as the ovate-oblong sepals; *anthers without transverse furrows;* drupes . . . .—*Ann. Mus.* 17. *t.* 21.—A tree; leaves 10″–6″ long, 3″–2″ broad, leathery, veiny: petiole 2‴ long; buds 4‴ long; ovary stipitate.—Hab. Dominica!, *Imr.*, in mountain-woods; [Guadeloupe].

4. **G. nitida,** *Sw. Leaves serrate, with pungent serratures,* lanceolate-oblong, tapering into the petiole: veins delicate; *panicle racemiform: pedicels* approximate, *as long as* or exceeding *the ovate-conical bud;* sepals ovate-lanceolate, acuminate; *anthers with transverse furrows,* tapering towards the top; drupes globose, at length ovoid, distant upon the obconical gynophore.—G. Guildingii, *Planch.!*: a small-leaved form.—A tree, 40′–50′ high; leaves 7″–3″ long, 2½″–1″ broad, rigid, variable; buds 3″–2″ long, pointed; sepals a little shorter than the petals; drupes 2‴–1½‴ diam.—Hab. Jamaica (*Sw.*); Antigua!, *Nichols.*; S. Vincent!, *Guild.*; Trinidad!, *Pd.*

5. **G. pyrifolia,** *Gr.* (*n. sp.*). *Leaves* small, *serrulate with minute,* accumbent serratures, oval-oblong or elliptical-lanceolate: veins prominulous; *cymes racemiform, simple,* lax: *pedicels twice as long as the ovate, blunt bud;* sepals ovate, bluntish; *anthers with transverse furrows,* oblong-linear; drupes . . .– Branches tortuous: all the smaller branchlets producing simple racemes; leaves 2″ long, 12‴–6‴ broad, rounded at the top, cuneate at the shortly petioled base; buds 2‴ long; petals nearly as long as the sepals.—Hab. Trinidad!, *Cr.*

XXXIV. GUTTIFERÆ.

Sepals imbricative, together with the petals in 2–3-leaved whorls. *Stamens* indefinite (–4): anthers adnate. *Pistil* syncarpous (or reduced). *Embryo* mostly exalbuminous, straight: cotyledons large, fleshy, often cohering.—Woody plants, *producing yellow resin; leaves simple, opposite (or whorled), usually leathery, and articulated at the base:* stipules *mostly none.*

Several acrid or balsamic drugs are obtained from the resinous juice of *Tovomita, Clusia, Moronobea,* and *Calophyllum. Mammea* bears eatable berries, which are however of less value than those of the cultivated *Garcinia Mangostana. Calophyllum Calaba* and *Tovomita Plumieri* are stated to be valuable timber-trees.

1. QUIINA, *Aubl.*

Flowers usually polygamous. *Sepals* 4 (–5). *Petals* 4, (5–8), imbricative. *Stamens* ∞: anthers roundish, introrse. *Ovary* 2–4-celled: cells 2–1-ovulate: styles 2–4, distinct. *Pericarp* baccate: seeds included within appressed down. *Embryo* large, ovoid: cotyledons at length cohering.—Shrubs *or* trees; *leaves bistipulate:* primary veins *costate, distant;* flowers *small, in racemiform cymes.*

1. **Q. jamaicensis,** *Gr.* (*n. sp.*). Leaves opposite, spathulate- or elliptical-oblong, petioled, glabrous; *stipules* juxtapetiolar, *persistent,* linear-subulate, exceeding the petiole; *racemiform cymes* axillary and terminal, simple, *solitary* or *geminate, twice* (*or* 4 *times*)

exceeded by the leaf: pedicels hairy, opposite or whorled, with the whorls distant; flowers unisexual; *sepals* 4, ciliate; petals 4; styles 2; berry obovate-globose, indehiscent.—Branchlets glabrous, cylindrical; leaves 6″–3″ long, 2½″–1″ broad, quite entire, with a bluntish point, tapering at the base: texture of stiff paper: petiole thick, 2‴–4‴ long; stipules 4‴–6‴ long; pedicels about 2‴ long, twice as long as the roundish sepals; berry 5‴–6‴ long, unilocular by abortion, 2–1-seeded: seeds obovate.—HAB. Jamaica!, *Al.*, *March*, *e.g.* at Moneague.

2. **Q. guianensis,** *Aubl.* Branchlets glabrous, compressed; leaves opposite, quite entire or repand, elliptical-oblong, pointleted, tapering towards the rounded base, glabrous, stiffly papery; *stipules juxtapetiolar, persistent, linear,* acuminate, *at length much exceeding the very short petiole; cymes* axillary, *corymbiform,* divided from the base; *flowers unisexual; sepals* 4, ciliate; petals 5–8; styles 2; berry conoid-elliptical, umbilicate at the top, indehiscent.—*Aubl. t.* 379.—Allied to the preceding; leaves 6″–3″ long, 2½″–1½″ broad: petiole thickish, 1‴–2‴ long; stipules 2‴, at length 6‴ long; pedicels 4‴–6‴ long, the exterior simple, some of the central ones longer, and simply divided; sepals ¾‴, petals 1½‴ long; berry striated, 6‴ long, usually 1-seeded by abortion.—HAB. Trinidad!, *Cr.*, at Irais; [Guiana].

3. **Q. Cruegeriana,** *Gr.* Leaves opposite, oblong, glabrous above, glabrescent beneath: petiole rusty-downy; *stipules* juxtapetiolar, *deciduous,* much exceeded by the petiole; *racemiform cymes* axillary, short, *clustered, nearly as long as the petiole;* pedicels opposite; flowers polygamous; *sepals* 5, petals as many; styles 2; berry obovate, "at length dehiscent."—Q. guianensis, *Cr.* (*not Aubl.*).—A shrub, or low tree, 10′–20′ high: branchlets compressed, rusty-downy; leaves 15″–6″ long, 6″–2″ broad, quite entire, or repand, with a bluntish point, tapering at the base, leathery, with a deciduous rusty down beneath on the midrib and veins: petiole 8‴–4‴ long, channelled above; pedicels about 2‴ long; sepals scarcely 1‴ long, roundish; petals 2‴ long, obovate, yellow; berry about 6‴ long, 4–1-seeded.—HAB. Trinidad!, *Cr.*, *Pd.*, in woods and on river-banks, S. Anns.

2. TOVOMITA, *Aubl.*

Flowers polygamous. *Sepals* 2–6. *Petals* 4 (–10), imbricative. *Stamens* ∞ (–8): filaments thickened, with the anthers introrse, obliquely adnate. *Ovary* 4–5-celled: cells 1-ovulate: stigmas 4–5, subsessile. *Pericarp* dehiscent: seeds arillate. *Embryo* ovoid: cotyledons cohering.—Shrubs *or* trees; leaves *glabrous, penninerved;* primary veins *usually somewhat distant;* flowers *in corymbiform cymes* (*or solitary*).

4. **T. amazonica,** *Walp. Leaves* lanceolate-elliptical, quite entire, or repand, pointed at both ends, veiny, petioled: *primary veins numerous; cymes corymbiform,* axillary and terminal, twice trichotomous, 3–4 times exceeding the petiole; *sepals* 2; stamens numerous: anthers minute; stigmas 4.—*Pœpp. n. gen. t.* 212.—Marialvæa, *Pœpp.*—A shrub, 6′ high; leaves 3″–2″ long, 1½″–1″ broad: petiole 3‴–4‴ long; sepals 2‴ long, glabrous, somewhat exceeded by the yellow petals.—HAB. Trinidad!, *Pd.*, *Cr.*, at Fort George; [equatorial Brazil!].

5. **T. havetioides,** *Gr.* (*n. sp.*). Arboreous; *leaves* obovate, quite entire, petioled: *primary veins approximate,* straight; *cymes densely corymbiform,* compound, terminal, exceeded by the leaves: peduncles tetragonal; *sepals* 6, two exterior smaller; stamens 16–20: anther-cells ovoid; stigmas 4.—A large tree, yielding resin: branchlets tetragonal, glabrous, rusty; leaves 4″–2″ long, 2″–1″ broad, leathery, rounded at the top, cuneate at the base: primary veins delicate, conspicuous on both sides, secondary ones inconspicuous: petiole 3‴–5‴ long; cymes many-flowered, 3–4 times compound, with a ternary or quinary division; 4 interior sepals roundish, 1‴ long, twice as long as the ovate exterior ones; petals 4; filaments distinct, thickened: anthers obliquely adnate; fruit unknown.—HAB. Jamaica!, *Wils.*, in woods of the southern lowlands to 3000′.

6. **T. Plumieri,** *Gr.* (*n. sp.*). *Leaves* elliptical, quite entire, petioled: *principal veins* 8–10 *on each side,* distant, curved at the top; *cymes terminal, simply corymbiform;* sepals ...; petals 4; stamens numerous: anthers ...; *stigmas* 5.—*Plum. ed. Burm. t.* 87. *f.* 2?—A large tree; leaves 6″–8″ long, 2½″–4½″ broad, mucronate or blunt, shortly tapering at the base: principal veins prominulous beneath, the other irregular: petiole 1″ long, with the

sheath prominulous at the axil; cyme 3–5-flowered: pedicels 1″ long, articulated towards the middle; petals ovate-roundish, 6‴ long; filaments distinct, subulate; ovary 5-celled: stigmas large, subsessile; pericarp ovoid, 1″ long: cells 1-seeded; seeds arillate: embryo ovoid.—HAB. Dominica!, *Imr.*

3. CLUSIA, *L.*

Flowers polygamous. *Sepals* 4–16, usually in 2-leaved whorls, the exterior successively smaller. *Petals* 4–8, imbricative. *Stamens* ∞ (or sometimes definite in the female flower): anthers linear, extrorse. *Ovary* 4–5–12-celled: cells multiovulate: stigmas depressed, sessile, as many. *Pericarp* fleshy, dehiscent: seeds arillate. *Embryo* small: cotyledons plano-convex, distinct.—Woody plants, twining round the trunks of trees and strangling them, whence their popular name of Scotch Attorneys; leaves *obovate-cuneate, coriaceous-rigid, penninerved;* flowers *solitary or cymose.*

7. **C. rosea,** *L.* *Leaves* stiff, *petioled,* subemarginate; peduncles 1(–2)-flowered; flowers large, rose-coloured or whitish: sepals 6; petals 6–8; *stigmas* 8 (7–9); *fruit globose,* "greenish."—*Tuss. Fl.* 4. *t.* 15; *Desc. Fl.* 7. *t.* 485; *Linnæa,* 8. *t.* 4.—C. alba, *Kth.* (*not L.*).—A tree, 20′–30′ high, growing on other trees or rocks; leaves usually 5″–6″ long, 3″–4″ broad: veins usually inconspicuous above, often prominulous beneath, numerous, straightish: petiole thick, 6‴ long; petals about 1½″ long, obovate or obcordate; fruit 20‴ diam.—HAB. Jamaica!, *March;* Caribbean Islands!; [Cuba! to Brazil].

8. **C. alba,** *L.* *Leaves* rounded at the top, *petioled,* veiny beneath; peduncles 1–3-flowered; flowers white; sepals 6 (–"9"); petals 5; *stigmas* 5; *fruit ovoid,* red.—*Plum. ed. Burm. t.* 87. *f.* 1; *Jacq. Amer. Pict. t.* 250.—A tree, like the preceding; leaves 7″–3″ long, 4″–2″ broad: primary veins numerous, most of them straightish, rarely inconspicuous: petiole 4‴–8‴ long, broad and channelled above; petals about 1″ long; fruit 3″ long.—HAB. S. Kitts!, Dominica!, *Imr.;* [Cuba!, Guadeloupe!, Martinique].

9. **C. flava,** *L.* *Leaves* rounded or subtruncate at the top, *petioled;* peduncles 2–3-flowered; flowers pale-yellow; sepals 8–16; petals 4; *stigmas about* 12; fruit "subglobose."—*Sl. t.* 200 *f.* 1; *Jacq. Amer. Pict. t.* 251.—A tree; leaves 2½″–2″ long, 1½″–1″ broad, striated above, veins inconspicuous, or prominulous beneath: petiole thick, 4‴–3‴ long; petals 10‴–8‴ long.—HAB. Jamaica!, *March,* chiefly on rocks, in the southern lowlands.

10. **C. venosa,** *Jacq.* (*exclus. syn. Plum*). *Leaves* rounded or subtruncate at the top, veiny on both sides, *subsessile;* peduncles 3–5-flowered; flowers shortly pedicelled, white; sepals 6 (4–8); petals 4; *stigmas,* 5–4; fruit . . . .—A tree, 30′ high; leaves 4″–3″ long, 3″–2″ broad, with a foliaceous, stem-clasping base: primary veins numerous, straight, prominulous; petals about 9‴ long.—HAB. Dominica!, *Imr.;* [Martinique].

4. MORONOBEA, *Aubl.*

Sepals 7, two exterior smaller. *Petals* 5, contorted. *Stamens* 15–20, connate: tube 5(–3)-fid: anthers linear, extorse. *Ovary* 5-celled: ovules 2, or several in each cell; style cylindrical, with 5 stigmas. *Pericarp* baccate . . . .—Trees; leaves *lanceolate or lanceolate-elliptical, petioled, penninerved:* veins *delicate;* cymes *umbelliform;* flowers *scarlet.*

11. **M. coccinea,** *Aubl., Mart.* Leaves bluntly pointed, tapering at the base; *bud globose; staminal tube* 5-*fid: lobes* 3-antheriferous, *straight;* ovary without spiral lines: stigmas lanceolate, recurved.—*Mart. N. Gen.* 3. *t.* 287.—M. globulifera, *Schlecht.*—A lofty tree, 90′–100′ high; leaves variable in breadth and shape; cymes usually 3–9-flowered: pedicels thick, as long as the flowers.—HAB. Jamaica!, *Dist.,* in mountain-woods (Bancroft's Hog-gum-tree; *Hook. Journ.* 4. *p.* 136); Dominica!, *Imr.;* Trinidad!, *Lockh.,* in swampy grounds; [Guiana!, Brazil!].

5. MAMMEA, *L.*

(Rheedia, *L.*)

Flowers polygamous. *Sepals* 2–4. *Petals* 4 (–6), imbricative. *Stamens* ∞: anthers introrse, or bursting laterally. *Ovary* 4-celled: cells multiovulate; stigma depressed, sub-

sessile, 4-lobed. *Pericarp* drupaceous. *Embryo* large, ovoid: cotyledons distinct.—Trees or shrubs; leaves *leathery, veined, petioled:* veins *prominulous on both sides;* peduncles *simple, fascicled or subsolitary in the axils.*

Sect. 1. EUMAMMEA.—*Anthers oblong, dehiscent laterally.*

12. **M. americana,** *L.* Leaves obovate-oblong, rounded at the top; peduncles a few in the axils, or solitary, as long as the petiole; sepals 2, oval-roundish, exceeding half of the petals; stamens numerous; *drupes globose,* russet, large, apiculate, 4(–1)-seeded.—*Jacq. Amer. Pict. t.* 248; *Tuss. Fl.* 3. *t.* 7; *Desc. Fl.* 1. *t.* 2.—A tree, 40′–60′ high; leaves 8″–4″ long; petals white, odorous, obovate, 6‴–8‴ long; drupes 7″–3″ diam.—HAB. Jamaica!, *Macf., Al.;* Caribbean Islands; [Cuba! to Brazil!].

Sect. 2. RHEEDIA.—*Anthers minute, roundish: cells obliquely adnate, introrse.* (The deciduous calyx was erroneously considered as wanting.)

13. **M. humilis,** *V.* Leaves elliptical-oblong, oblong or ovate, with a bluntish point; peduncles usually fascicled, nearly as long as the petiole; sepals usually 2, much exceeded by the small petals; stamens 20–12; *drupes ovoid,* yellow, apiculate, 3(–1)-seeded.—A low tree or shrub; peduncles reddish; petals white, spathulate, 3‴ long; drupes 4″–1″ long.

α. Vahlii. Shrubby; leaves elliptical-oblong or oblong, usually pointed at both ends.—*Vahl, Eclog. t.* 20. (*exclus. fruct.*); *Desc. Fl.* 3. *t.* 343.—Garcinia macrophylla, *Mart.* (*Hb. Bras.; Pl. Spruc.* 1744): the other American *Garciniæ* are to be compared with this variable plant.—Leaves 7″–4″ long, 3½″–2″ broad: petiole 12‴–8‴ long.

β. Plumieri. Arboreous; leaves ovate, bluntish, rounded or subcordate at the base.—*Plum. ed. Burm. t.* 257; *Tuss. Fl.* 3. *t.* 32.—Rheedia lateriflora, *L.* Mammea, *Gr.* Malpighia mitis, *Rchb. in Sieb. Pl. Trin.* 56!: a form with solitary peduncles.—Leaves 8″–6″ long, 4″–3″ broad.

HAB. Jamaica!, *March;* Montserrat (*V.*), S. Vincent! (*α, β*), *Guild.;* Trinidad!, *Sieb.;* [Guadeloupe!, Guiana!, New Granada!, Brazil!].

6. CALOPHYLLUM, *L.*

Flowers polygamous. *Sepals* 2–4. *Petals* 4 (–2), imbricative. *Stamens* ∞ (–definite): anthers oblong, introrse. *Ovary* 1(–2)-celled: ovules solitary, erect; style distinct: stigma peltate, lobed. *Pericarp* drupaceous. "*Embryo* ovoid: cotyledons cohering."—Trees; leaves *penninerved:* veins *delicate, densely approximate, straightish;* cymes *racemiform or paniculate, axillary.*

14. **C. Calaba,** *Jacq.* Leaves elliptical-oblong or oblong, bluntish or emarginate, tapering at the petioled base; *racemes much exceeded by the leaves,* few-flowered; *drupe globose,* greenish.—*Jacq. Amer. Pict. t.* 249; *Desc. Fl.* 2. *t.* 74.—A high tree; leaves variable, 3″–10″ long; petals white, odorous, 3‴ long, about twice as long as the sepals; ovary longitudinally striated, longer than the short style; drupe 1″ diam.—HAB. Jamaica!, *Al., March,* common in mountain-woods; Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Cuba! to Brazil!].

XXXV. CANELLACEÆ.

Sepals 3, distinct, imbricative, persistent. *Petals* 5 (–4), fleshy, imbricative. *Stamens* hypogynous, 10–20, forming an entire tube, which is truncate at the top: anthers adnate to the tube, extrorse, contiguous. *Ovary* unilocular, with 2–4, parietal placentas: ovules campylotropous. *Pericarp* baccate. *Embryo* short, cylindrical, included in the copious albumen.—Woody plants; leaves *scattered, coriaceous, entire, exstipulate, minutely dotted;* flowers *corymbose.*

The *Canellaceæ* abound in aromatic and tonic properties. The bark of the *Canella alba* is a renowned spice and drug, formerly confounded with that of *Drimys:* it is exported to Europe chiefly from the Bahamas (White-wood-bark, or Wild Cinnamon). *Cinnamodendron* partakes of the same properties (Red Canella, or Mountain-cinnamon of Jamaica).

1. CANELLA, *P. B.*

Staminal tube without exterior scales: anthers 10, contiguous on the outside of the tube, and each dehiscent by two longitudinal fissures. *Ovary* with 2 (–3) parietal placentas, each punctiform, situated below the middle of the wall, and provided with two collateral, campylotropous ovules, which ascend from a pendulous funiculus; style short, terminated with 2 (–3) globular, contiguous stigmas. *Berry* filled up by a gelatinous pulp, including a few seeds: testa crustaceous; inner integument adhering to the fleshy endosperm; embryo half its length: radicle short, inferior.—A tree; leaves *glabrous;* corymbs *terminal:* flowers *numerous, violet, with yellow anthers.*

1. **C. alba,** *Murr.* Leaves spathulate, tapering towards the short petiole, rounded at the top, paler beneath; *pedicels exceeding much the size of the flower.—Sl. t.* 191. *f.* 2; *P. Br. Jam. t.* 27. *f.* 3; *Sw. in Linn. Transact.* 1. *t.* 8; *Hayne, Arzn.* 9. *t.* 5.—Winterana Canella, *L.* C. laurifolia, *Lodd.*—A tree, 50′–10′ high; leaves evergreen, 2″–3″ long, 1″ broad; sepals 1‴ long, broadly rounded, minutely ciliate, half the length of the erect, obovate-oblong petals; staminal tube equalling the included style, a little shorter than the odorous corolla: anthers reaching from its top to the middle; berry black, globose, 4‴ diam. (immature ovoid); seeds black, shining, orbicular, impressed at the micropyle, 2‴ diam., convex on both sides.—HAB. Jamaica!, *Dist., Wils., March,* common in the woods of the lowlands and lower hills; Bahamas!, Barbadoes! [Cuba!, S. Croix, Guadeloupe!, Martinique].

2. CINNAMODENDRON, *Endl.*

Staminal tube encircled by five exterior, hypogynous, petaline scales, alternating with the petals: anthers 10–20, contiguous on the outside of the tube, and each dehiscent by two longitudinal fissures. *Ovary* with 4 (–5) parietal placentas, each longitudinal: ovules indefinite, horizontal, campylotropous, provided with two integuments; style short, terminated with 4 (–5) globular, contiguous stigmas. *Berry* filled up by the growth of the placentas, at length wholly involving the numerous seeds: testa crustaceous; endosperm fleshy and oily: embryo one-third its length.—Trees; corymbs *axillary, or at length lateral, contracted.*

2. **C. corticosum,** *Miers!* Leaves elliptical-oblong, rounded at the base, shortly petioled, pointleted or bluntish, green beneath; pedicels as long as the flower; petals ovate, rounded at the top, red; *petaline scales elliptical-lanceolate, blunt, not ciliate; anthers* 16 (–20).—C. rubrum, *Gr. in lit.* Canella alba, *Ns. Eberm.*—A low, shrubby tree, 10′–15′ high; leaves 2″–3″ long, 1″–2″ broad: petiole enlarged at the top, not much exceeded by the corymb, or equalling it; sepals and petals resembling those of *Canella alba,* their proportions and those of the staminal tube being the same: petaline scales half the length of the staminal tube, erect, a little imbricated, reaching to the base of the anthers, and closely appressed to the filamental part; ovules numerous: fasciculi rather long, pluriserial on each placenta; berry globose-ovoid, 3‴–6‴ long, 4‴–6‴ diam., supported by the spreading calyx, minutely apiculate by the persistent stigmas: seeds ovoid, brown, shining, 1‴ long (not yet ripe in our specimens).—HAB. Jamaica!, *Wils., March,* in the higher mountain-woods, S. Thomas in the V., S. John.

XXXVI. MARCGRAAVIACEÆ.

Sepals imbricative, in several 2–3-leaved whorls. *Stamens* indefinite (–5): anthers introrse. *Pistil* paracarpous, with incomplete dissepiments: placentas multiovulate; stigma sessile, radiate: the single rays prominent or decurrent. *Pericarp* fleshy, dehiscent. *Seeds* minute: embryo exalbuminous, straight, cylindrical; radicle short.—Woody plants, *usually climbing;* leaves *alternate, simple, leathery, articulated at the base, exstipulate;* flowers *centripetal:* bracts *cucullate or clavate.*

An obsolete drug is prepared from the watery juice of *Marcgraavia,* which exudes copiously from the cut stem.

1. NORANTEA, *Aubl.*

Sepals 7, two exterior smaller. *Petals* 5. *Stamens* ∞–12 (–7): anthers linear, erect,

mucronate at the top, articulated with the filament. *Ovary* incompletely 3–5-locular.—Trees or shrubby climbers; racemes *spiciform, long:* bracts *cucullate and ascidiate, with the aperture inferior, simple, inserted into the top of the pedicel, and exceeding the flower.*

1. **N. guianensis,** *Aubl.* Leaves obovate; ascidiate bracts scarlet, stipitate: *the clavate body as long or twice as long as its petiole;* flowers violet, shortly pedicelled.—*Aubl. t.* 220; *Mart. N. Gen. t.* 296.—N. paraensis, *Mt.*—A shrubby climber (*Pd.*) or a high tree (*ubl.*); leaves 6″–5″ long, petioled, quite entire; flowers 2‴–3‴, ascidia 12‴–8‴ long.—HAB. Trinidad!, *Pd.*, in the mountains of S. Anns; [Guiana!, equatorial Brazil!].

2. RUYSCHIA, *Jacq.*

Character of *Norantea*, but flowers pentandrous, and anthers oblong or oval, devoid of a mucro.

2. **R. Souroubea,** *W.* Leaves obovate-oblong, bluntish, shortly petioled; flowers racemose: *pedicels elongated;* ascidiate bracts close to the calyx, divided to the base into three clavate segments, the middle of which is ascending, the lateral ones (or spurs) reflexed, shorter than the pedicel.—*Aubl. t.* 97.—Surubea Aubletii, *Mey.!*—A shrub; spurs nearly as long as the middle segment of the bract; petals "orange-coloured."—HAB. Trinidad!, *Cr.*, at Guanapo, rare; [Guiana!].

3. MARCGRAAVIA, *L.*

Sepals 6, two exterior smaller. *Corolla* calyptriform, circumscissile. *Stamens* ∞ –12: anthers linear, articulated with the filament a little above the base, not mucronate. *Ovary* incompletely 12–4-locular, striated longitudinally: stigmas decurrent from its pointed, bluntish top.—Climbing shrubs; leaves *quite entire, shortly petioled;* flowers *long-stalked, in terminal umbels or corymbiform racemes;* bracts *inserted or adnate above the base of the pedicel.*

3. **M. spiciflora,** *Rich.* Leaves obovate; *flowers* numerous, *in a corymbiform raceme;* bracts small, spathulate, convex above, concave below, inserted somewhat below the middle of the pedicel: sterile none; corolla circumscissile near the middle; stamens 18–12; placentas 4.—*Ann. Mus.* 14. *t.* 25.—A tortuous shrub, 6′–2′ high; leaves usually 4″ long, 2¼″ broad; raceme 4″ long: pedicels approximate, spreading, 1½″ long, clavate at the top; flower-buds 4‴ long before the rupture of the corolla, ovoid.—HAB. Dominica!, *Imr.;* [Guadeloupe, among *Sphagnum* in the mountains].

4. **M. umbellata,** *L.* Leaves ovate-oblong or oblong-linear (those of the rooting shoots distichous, cordate, emarginate, subsessile, fern-like); *flowers umbellate:* exterior pedicels ebracteate, interior abortive, the latter with an adnate, ascidiate, claviform bract; corolla circumscissile from the base; stamens numerous, long-exserted from the calyx: anthers recurved; placentas 12–6.—*Br. Jam. t.* 26: the broad-leaved form; *Jacq. Amer. Pict. t.* 143: the narrow-leaved form; *Tuss. Fl.* 4. *t.* 13; *Desc. Fl.* 4. *t.* 239; *Hook. Exot. Fl. t.* 160.—M. coriacea, *V.:* a veinless, broad-leaved form. M. trinitatis, *Prl.* The sterile, rooting shoots are described as M. picta, *W.*, M. dubia, *Kth.*, and Urostigma infestum, *Miq.!:* they are figured as Ferns by Sloane.—A trailing shrub: the branches partly rooting, partly nodding; leaves 5″–3″ long, 2″–8‴ broad; pedicels 1′–1½″ long; flowers greenish; interior sepals roundish, 2‴ diam.; stamens yellow, 6‴–8‴ long; pericarp with a red pulp. The variability is considerable: the leaves ovate-oblong, elliptical-lanceolate or oblong-linear, acuminate, pointleted or bluntish, veinless or with prominent, anastomosing veins; the pedicels tubercled or smooth; the pericarp globose or ovate.—HAB. Jamaica!, *M'Nb.*, *Al.*, on trees and rocks; Dominica!, *Imr.;* S. Lucia!, S. Vincent!, *Guild.;* Trinidad; [Cuba!, Venezuela!, southern New Granada!].

XXXVII. HYPERICINEÆ.

Sepals imbricative, 4–5: two exterior. *Stamens* mostly indefinite: anthers erect or incumbent. *Pistil* paracarpous, or at length syncarpous: styles usually distinct. *Embryo* exalbuminous, cylindrical: radicle usually exceeding in length the short cotyledons.—Leaves *mostly opposite, quite entire, exstipulate, usually punctate with pellucid dots.*

A yellow, resinous juice occurs in this Order, and the pellucid dots of the leaves contain ethereal oil.

1. MARILA, *Sw.*

Sepals 4–5. *Petals* as many, imbricative. *Stamens* ∞ : anthers erect, with a terminal gland. *Style* single, short, or none. *Capsule* 4(–3)-celled, septicidal and loculicidal: seeds indefinite, margined.—Woody plants; leaves *opposite, petioled, dotted:* veins *costate, joined by arches near the margin;* flowers *in terminal and axillary racemiform cymes:* bracts *abortive;* pedicels *long, spreading.*

1. **M. racemosa,** *Sw.* Glabrous; *leaves* oblong-lanceolate, *dotted with pellucid lines and points;* racemes simple; sepals 5, shortly exceeded by the petals; *anthers oblong;* style very short: stigma capitate; capsule siliquiform, incurved: *seeds ciliate,* chiefly at both ends.—*Sw. Fl. t.* 19: *anal. Mém. Mus.* 16. *t.* 17 *A.*—Bonnetia, *Sw.* Capparis commutata, *Sieb., Mart.* 304!—A shrub, 15′–20′ high; leaves 10″–4″ long, 3″–1″ broad, pointed at both ends; pedicels 6‴, sepals 4‴ long; petals greenish-white.—Hab. S. Kitts, Montserrat, Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!

2. **M. grandiflora,** *Gr.* (*n. sp.*). Branchlets and peduncles flattened, rusty with short down, or glabrate; leaves oblong, glabrous, *dotted with pellucid points, without lines;* racemes lax, somewhat compound below; *sepals* 4–5, *rusty-tomentose* externally; *anthers linear;* style none: stigma 4-globose; capsule oblong: *seeds fringed with very short* or obsolete *hairs* on the margin.—Leaves 18″ long, 5″ broad, bluntish at the base, tapering towards the obtusely pointleted top: primary veins prominent beneath, 5‴–6‴ distant from each other: petiole 1″ long; pedicels 1″–1½″ long, subreflexed; sepals 5‴–6‴ long, ovate, exterior bluntish, interior very blunt, exceeded by the stamens; petals caducous, as long as the sepals in the bud; stamens very numerous: anthers narrow, 2½‴–3‴ long, about ¼‴ broad, with a minute, whitish, terminal gland; ovary originally unilocular, with four placentiferous laminas, which soon cohere in the axis: stigma sessile; capsule 4-valved: the valves at length reflexed from the central, 4-lobed, placentiferous column, which exceeds the persistent stamens: seeds oblong, minute, margined with a very narrow membrane.—Hab. Trinidad!, *Cr.*

2. VISMIA, *Vand.*

Sepals 5–4. *Petals* as many, villous within. *Stamens* ∞, 5-adelphous, the bundles hairy, alternating with hypogynous scales: anthers roundish, incumbent. *Styles* 5, distinct. *Pericarp* baccate, 5-celled: seeds indefinite.—Woody plants; leaves *opposite;* cymes *corymbiform or paniculate, terminal and axillary;* petals *dotted with black glands.*

3. **V. ferruginea,** *Kth.* *Branchlets tetragonal,* rusty-tomentose, at length glabrate; leaves ovate-oblong or oblong-lanceolate, acuminate or pointed, usually rounded or subcordate at the base, with a minute, evanescent, rusty down and glandular dots beneath, devoid of pellucid points: *primary veins costate,* prominent beneath; cymes rusty-tomentose, corymbiform; buds obovate-globose; *sepals rusty-tomentose* externally, ovate, bluntish, half the length of the petals; *hypogynous scales roundish,* short.—V. macrophylla, *Salzm. Pl. Bah.!:* Kunth's homonym and V. latifolia, *Kth.* (*non Chois.*), are probably mere forms of the same. V. angusta, *Miq.:* our narrow-leaved form. V. panamensis, *Wp.!* (formerly referred erroneously to V. guianensis, *Aubl.*).—A shrub or low tree; leaves petioled, 12″–3″ long, 3½″–1″ broad: petiole 6‴–8‴ long, rusty-puberulous; petals 4‴ long, greenish-white.—Hab. S. Vincent!, *Guild.;* Trinidad!; [Panama! to Brazil!].

4. **V. cayennensis,** *Pers.* Glabrous; *branchlets cylindrical;* leaves elliptical or elliptical-lanceolate, pointed at both ends, with black dots beneath, devoid of pellucid points: *veins reticulated;* cymes few-flowered, corymbiform; buds globose; *sepals glabrous,* ovate, bluntish, half the length of the petals; *hypogynous scales oblong,* pubescent.—Hypericum, *L.*—A low tree, or shrub, about 20′ high; leaves petioled, 5″–3″ long, 2½″–1″ broad: petiole 4‴–2‴ long; petals 4‴ long.—Hab. Trinidad!, *Lockh., Cr.,* common in dry grounds; [Guiana!, equatorial Brazil!].

3. ASCYRUM, *L.*

Sepals 6, exterior small, distant. *Petals* 4, contorted. *Stamens* ∞, subdistinct: anthers

roundish, incumbent; hypogynous scales none. *Styles* 2–4, usually distinct. *Capsule* unilocular, marginicidal: seeds indefinite.—Low shrubs, *or perennial, leafy* herbs; flowers *subsolitary, pedicelled, yellow.*

5. **A. hypericoides,** *L., Sw.* Shrubby; *leaves* oblanceolate, subsessile, *with* 2 *stipular glands at the base,* punctate with pellucid dots, and black ones beneath; peduncles terminal, shorter than the middle calyx-whorl; middle sepals oval, much exceeding the inner lanceolate ones; styles distinct, short; capsule ovate, 2(–3)-valved.—A low, diffuse shrub, 1′–2′ high; leaves 3‴–4‴ long, blunt; middle sepals 3‴–4‴ long, about as long as the petals.—HAB. Jamaica!, *Pd., Al., Wils., March,* common in the mountains, on barren soil of the Coffee-region, 4,000′; Bahamas!, *Swains;* [Bermudas!, Texas!, Mexico!, New Granada!].

XXXVIII. SAUVAGESIEÆ.

Fertile *stamens* 5: anthers erect, with a lateral dehiscence. *Pistil* paracarpous: placentas 3; style simple; ovules anatropous. *Capsule* marginicidal: embryo axile, cylindrical.—Leaves *stipulate, undivided:* stipules *fimbriate.*

This small Order is mucilaginous: *Sauvagesia erecta* is used in medicine.

1. SAUVAGESIA, *L.*

Sepals 5, persistent. *Petals* 5, deciduous. *Petaline scales* 5, distinct, opposite to the petals, and separated from them by a whorl of sterile filaments, which are dilated at the top. Fertile *stamens* alternating with the scales: anthers oblong, dehiscent by lateral fissures. —Herbs or shrubs, *glabrous;* leaves *usually serrate;* pedicels *articulated above the base, axillary or racemose;* sepals *setiferous at the top.*

1. **S. elata,** *Benth.!* Shrubby; leaves oblong-lanceolate, or lanceolate, serrulate-repand, tapering at both ends, acuminate: petiole very short; stipules lanceolate, acuminate, erect, exceeding the petiole: fringes very long; racemes terminal: flowers usually fascicled; *sepals equal,* elliptical-oblong, bluntish, exceeding the corolla, *exceeded by the capsule;* sterile filaments numerous; seeds globose.—Leaves 3″–4″ long, variable in breadth; sepals 3‴ long.—HAB. S. Vincent!, *Guild.;* [Guiana!].

2. **S. erecta,** *L.* Herbaceous, annual; leaves elliptical-lanceolate, serrulate, pointed, tapering towards the petiole; stipules ovate-lanceolate: fringes long; pedicels axillary, filiform; *sepals equal,* lanceolate, *acuminate,* nearly equalling the corolla and the capsule; sterile filaments numerous; seeds ovoid.—*Br. Jam. t.* 12. *f.* 3; *St. Hil. Pl. Rem. t.* 3 *A; Desc. Fl.* 4. *t.* 299.—Stem spithameous, branching, erect or decumbent; leaves 1″–1½″ long; sepals usually 2‴ long; petals white, obovate.—HAB. Jamaica!, *Pd., Macf.,* in damp situations among Grasses; Dominica!, S. Vincent!, *Guild.;* Trinidad!, *Lockh., Cr.;* [Cuba and Mexico! to Brazil!, beyond the Southern Tropic and Peru!; found also (perhaps transported, like an annual weed, with Grasses), in Western Africa, Madagascar, and Java].

3. **S. Sprengelii,** *St. Hil.* Suffrutescent; leaves minute, lanceolate, margined, remotely serrulate or subentire, subsessile; stipules linear, dissolved into fringes; raceme terminal; *sepals unequal,* ovate-lanceolate, margined, *blunt, exceeded by the corolla;* sterile filaments numerous.—*Mart. Nov. Gen.* 1. *t.* 25; *St. Hil. l. c. t.* 2 *A.*—S. serpyllifolia, *Mt.* —Stem slender, spithameous, or several feet high; leaves approximate, 2‴–3‴ long; sepals lined with a membranaceous margin, callous at the base, interior 2‴ long, the two exterior half as long.—HAB. Trinidad!, *Lockh., Cr.,* on savannahs; [Caracas! and Guiana! to South Brazil!].

XXXIX. SALICINEÆ.

Flowers amentaceous, diœcious, naked. *Pistil* paracarpous: placentas 2, multiovulate. *Capsule* medianicidal: seeds minute, clothed with wool. *Embryo* exalbuminous.—Woody plants; leaves *alternate, simple, stipulate.*

The Willows contain a bitter principle (*Salicin*), and from the flexibility of their branches are more or less adapted to economical purposes.

1. SALIX, *L.*

Bracts entire. *Flowers* bearing 1–2 glands; ♂: stamens definite, usually 2.—Buds *without imbricated scales.*

1. **S. Humboldtiana,** *W.* Leaves linear, serrate, glabrous; stipules deciduous; *catkins terminal* on leafy branches, appearing with the leaves; *bracts* hairy, *deciduous; stamens usually* 4–6; stigmas sessile; capsules glabrous, ovate-conical, stalked: *stalk* 3–4 *times longer than the gland.*—Leaves 2½″–1½″ long, 4‴–3‴ broad.—Hab. Jamaica!, *Wils.*; S. Vincent!, *Guild.*; [Cuba! and Mexico! to Brazil! and Chile!].

XL. ERYTHROXYLEÆ.

Calyx 5-partite or 5-fid, persistent. *Petals* 5, bearing internally a double scale. *Stamens* 10, monadelphous. *Pistil* syncarpous: ovary 3–1-celled (2 cells usually abortive): ovule single, pendulous; styles 3 (or united at the base). *Pericarp* drupaceous. *Embryo* straight, in the axis of cartilaginous albumen.—Woody plants; leaves *alternate, glabrous, quite entire, deciduous:* stipules *axillary, persistent;* flowers *small, axillary or precocious, fascicled or solitary.*

A tonic drug is prepared from *Erythroxylum areolatum.*

1. ERYTHROXYLUM, *L.*

1. **E. brevipes,** *DC.* *Leaves* small, obovate, rounded at the top or emarginate, membranaceous, *glaucous-whitish beneath; pedicels* 1–2, axillary, *exceeded by the petiole; drupes ellipsoidal-oblong,* as long as the pedicel.—A shrub; leaves 12‴–6‴ long, 8‴–4‴ broad, almost veinless: petiole 2‴–1½‴ long, much longer than the minute stipules; petals oblong, 1‴ long; drupes 1½‴ long.—Hab. Jamaica!, *Al., March, e.g.* S. Anns; [Cuba to Portorico].

2. **E. obovatum,** *Macf.!* *Leaves* obovate-oblong or obovate, rounded at the top or subemarginate, rigidly membranaceous, *glaucous-whitish beneath; pedicels fascicled,* axillary, *exceeded by the petiole; drupes oblong,* blunt at both ends, prismatical, at length longer than the pedicel.—*Rich. Cub. t.* 27.—E. affine, *Rich.*—A shrubby tree, about 12′ high; leaves 2″–1″ long, 12‴–10‴ broad, with the veins almost inconspicuous: petiole 4‴–2‴ long; stipules subulate; drupes 3‴–4‴ long.—Hab. Jamaica!, *Macf., March,* common on limestone-hills; S. Vincent!, *Guild.*; [Cuba].

3. **E. areolatum,** *L.* *Leaves* obovate or obovate-oblong, rounded or emarginate at the top, membranaceous, glaucescent beneath and *areolated* by a pair of connecting veins, which include a lanceolate, middle area; pedicels fascicled, lateral, as long as the petiole and the fruit; *drupes oblong,* blunt at both ends, unequally obtuse-angled.—*Jacq. Amer. Pict. t.* 129, *Desc. Fl.* 6. *t.* 442.—A shrubby tree; 10′–16′ high; leaves usually 2″ long, 1″ broad (in young shoots, sometimes 5″ long, oblong), with the veins delicate: petiole 2‴–3‴ long; stipules triangular; flowers precocious, white, fragrant; drupes scarlet, 3‴–4‴ long. This is the only West-Indian *Erythroxylum* with areolate leaves: but in other species, where there is no connecting vein, which runs in an arch from the base to the top of the midrib, the leaves are sometimes plaited in the same way, or a peculiar colouring circumscribes a similar area. Hab. Jamaica!, *Macf., Wils., March,* in dry situations, 0′–2,000′, chiefly on the seashore; [Venezuela, New Granada].

4. **E. obtusum,** *DC.* Leaves obovate, or oval, rounded at the top, membranaceous, glaucescent beneath; *pedicels* fascicled, lateral, *longer than the petiole and twice as long as the fruit: drupes ellipsoidal-oblong,* unequally obtuse-angled.—E. havanense, *Kth.* (*non Jacq., nec Rich.*) E. areolatum, *Pœpp. Cub.!* (*non L.*).—A shrub, or shrubby tree; leaves 2″–1½″ long, 1″–8‴ broad: veins conspicuous, reticulated, prominulous on the upper side: petiole 1‴–2‴ long; stipules subulate; flowers precocious: pedicels filiform; drupes 3‴–2‴ long. —Hab. Trinidad!, *Cr.*; [Cuba!, Haiti].

5. **E. ovatum,** *Cav.* Leaves oval or obovate, rounded at the top, membranaceous, usually glaucescent beneath; *pedicels* fascicled, lateral, *longer than the petiole, as long as or shorter than the fruit; drupes oblong, pointed.*—*Cav. Diss.* 8. *t.* 233.—E. havanense,

Jacq. (*Amer. Pict. t.* 130), is probably the same: but I do not know whether our plant has the orange-coloured drupes of that figure.—Leaves variable, 2½″–1″ long, 1⅓″–8‴ broad: veins conspicuous, reticulated, prominulous on both sides: petiole 1‴–2‴ long; stipules subulate; flowers precocious; drupes 4‴–3‴ long.—HAB. Dominica!, *Imr.*, on limestone; Trinidad!, *Lock.*, *Cr.*; [Guiana!, Bahia!].

6. **E. squamatum,** *V.!* *Leaves* elliptical, *pointed* or apiculate, *leathery, green beneath;* pedicels 2–3, axillary, exceeding the petiole: drupes oblong, bluntish at the top, obtuse-angled, as long as the pedicel.—*Vahl, Symb.* 3. *t.* 63.—E. havanense, *Rich.* (*non al.*) —A tree; leaves 3½″–2½″ long, 2″–1½″ broad, dark-green, paler beneath: veins reticulated, prominulous chiefly above: petiole 3‴ long; stipules ovate; flowers larger than in the other species: petals 3‴–2‴ long: drupes 6‴–5‴ long.—HAB. Jamaica!, *Al.*, in the district of S. Anns; S. Lucia!, *Anders.*; [Cuba to Guiana].

XII. MALPIGHIACEÆ.

Calyx 5-partite: 4 segments usually biglandular. *Petals* 5, mostly unguiculate. *Stamens* 10, or fewer by abortion: anthers adnate. *Pistil* syncarpous: ovary 3 (2–5)-celled: cells uniovulate, with the ovule ascending from a pendulous funiculus; styles usually distinct (or 2 abortive). *Embryo* exalbuminous.—Stem *mostly woody;* leaves *usually opposite, and quite entire, stipulate, with the stipules often caducous;* pedicels *articulated and bibracteolate.*

The drupes of some *Malpighiæ* are eatable.

TRIBE I. *MALPIGHIEÆ.*—*Stamens* 10. *Pericarp without wings, inserted upon a flat torus.*

1. BYRSONIMA, *Rich.*

Calyx usually 10-glandular. *Styles* 3, pointed. *Drupe* with a 3-celled endocarp.—Stipules *axillary, persistent;* flowers in *terminal racemes.*

1. **B. verbascifolia,** *Rich.* Shrubby; *leaves* obovate, cuneate at the base, and usually petioled, *tomentose on both sides*, or glabrate above; bracts lanceolate-filiform: the inferior exceeding the lateral ones; petals yellow; anther-cells hairy, nearly as long as the connective, which is recurved at the summit.—*Aubl. t.* 184.—Leaves 10″–6″ long.—HAB. Trinidad!, *Cr.*, Savanna de Piarlo; [Guiana!, the whole of Brazil!].

2. **B. cinerea,** *DC.* Arboreous; *leaves* elliptical-oblong or elliptical, cuneate at the base, long-petioled, *shining above, tomentose beneath;* bracts small, triangular, equal; petals yellow; *anther-cells hairy, equalling the connective;* ovary villous.—B. crassifolia, *Lun.* (*non Kth.*).—Leaves 4″–3″ long, 2″–1″ broad: down pale-rufescent or hoary, persistent; racemes long, rusty-tomentose: pedicels long, approximate, articulated at the base, —HAB. Jamaica!, *Al.*, *March;* [Pinos, near Cuba; Guiana, equatorial Brazil].

3. **B. crassifolia,** *Kth.* Shrubby or arborescent; *leaves* oval or elliptical-oblong, long-petioled, *glabrous above, tomentose or glabrate beneath;* bracts small, bluntish, equal; petals yellow; *anther-cells villous, a little exceeded by the connective;* ovary glabrous.—*Aubl. t.* 182, 183; *Desc. Fl.* 2. *t.* 110.—A shrub or low tree, 10′–12′ high; leaves variable, 3″–5″ long, 1½″–2½″ broad, veiny above: down short, rufous; pedicels shorter than in the preceding, about twice as long as the flower.—HAB. Dominica!, *Imr.*; Trinidad!, *Lockh.*, *Cr.*, common in all savannahs; [Cuba! to northern Brazil!, Venezuela!].

4. **B. coriacea,** *DC.* Arboreous; *leaves* elliptical or elliptical-oblong, petioled, *glabrous* on both sides, or with the nerves glabrate and pale-green beneath; bracts lanceolate, acuminate or subulate, subequal: petals golden-yellow; *anther-cells glabrous, equalling the connective; ovary silky-lanuginose.*—Malpighia, *Sw.!* (*exclus. syn. Sl.*). B. Berteroana *Juss.!*—A tree, 20′–30′ high; leaves 4″–3″ long, 1¾″ broad, usually pointed; petioles and racemes rusty-tomentose; drupes yellow.—The old Swartzian name, referred erroneously by A. Juss. to *B. spicata* (a species, not observed in Jamaica), must be restored.—HAB. Jamaica!, all coll., common in the southern districts; S. Vincent!, *Guild.*

5. **B. spicata,** *Rich.* Arboreous; *leaves* elliptical-lanceolate or lanceolate, tapering into the short petiole, *glabrous above, rusty-opaque and glabrate beneath:* hairs scattered, appressed; bracts lanceolate, bluntish, equal; petals yellow; *anther-cells glabrous, equalling the connective,* the top of which is separated and somewhat recurved; *ovary glabrous.—Cav. Diss.* 8. *t.* 237; *Desc. Fl.* 2. *t.* 91.—Malpighia, *Cav.* M. altissima, *Jacq.* (*non Aubl.*). M. guadelupensis, *Spr.* Banisteria laurifolia, *Sieb. Mart.* 123! (*non L.*),—A tree, 30′–40′ high; leaves 5″–2″ long, 20‴–8‴ broad, acuminate with a bluntish point, usually shining above and nigrescent when dried; drupes yellow.—HAB. Dominica!, *Imr.;* S. Lucia, Trinidad!, *Sieb., Cr.;* [Cuba! to Brazil!].

6. **B. lucida,** *Rich.* Shrubby or arborescent; *leaves spathulate,* tapering into the short petiole, revolute on the margin, *glabrous:* veins inconspicuous; racemes short; bracts lanceolate, acuminate: the inferior twice as long as the lateral ones; petals changing during their development from rosy to purple; *anther-cells glabrous, exceeded a little by the connective;* ovary glabrous.—*Rich. Cub. t.* 28 *A.*—Malpighia, *Mill., Sw.*—A shrub or middle-sized tree; leaves 1½″–1″ long, 8‴–5‴ broad, rounded or bluntish at the top, shining above, opaque beneath; racemes puberulous or glabrous; drupes greenish.—HAB. Bahamas!, *Swains.;* Antigua!, *Nichols.;* Dominica!, *Imr.;* [Cuba!].

7. **B. trinitensis,** *Juss. Leaves obovate,* shortly petioled, revolute on the margin; *glabrous,* rusty beneath: veins inconspicuous; bracts minute, equal; petals ...; *anther-cells hairy above, half the length of the recurved connective;* ovary glabrous.—Banisteria umbellata, *Sieb. Trin.* 51!—Nearly related to the preceding, but the leaves broader, 2″–¾″ long, 1¼″–½″ broad.—HAB. Trinidad!, *Sieb.*

2. BUNCHOSIA, *Rich.*

Calyx 10-glandular (or 8–9-glandular from one or two segments being 1-glandular). *Styles* 2–3, often cohering partially, or to the top: stigma truncate. *Drupe* 2–3-pyrenous: pyrenæ without crests.—Racemes *axillary;* flowers *usually yellow.*

8. **B. Lindeniana,** *Juss.!* Arboreous; *leaves* oval or obovate, *rounded towards the base,* glabrous: *two glandular spots beneath near the base;* racemes twice exceeded by the leaf: *pedicels articulated* and tribracteate *at the base;* anther-cells exceeding a little the connective; styles cohering: stigma peltate; drupes 2-celled, ovate-globose.—Leaves 5″–6″ long, 3″ broad, somewhat leathery: petiole glabrous; drupes 5‴–6‴ long, 4‴ broad.—HAB. Jamaica!, *Al., March;* Dominica!, *Imr.;* [Mexico, Costa Rica!, Guiana!].

9. **B. media,** *DC.* Shrubby; *leaves* elliptical or elliptical-oblong, blunt or with a bluntish point, *cuneate at the base,* glabrous: *two glandular spots beneath, distant from the base;* racemes usually somewhat exceeded by the leaf: *pedicels articulated near the base;* anther-cells exceeding a little the connective; styles cohering: stigma peltate; drupes 2-celled, ovate-globose.—Malpighia, *Ait.*—Leaves 3½″–2″ long, 2″–¾″ broad, somewhat leathery: glandular spots roundish, 4‴–6‴ distant from the base: petiole glabrous; drupes 4‴ long, 3‴ broad, red.—HAB. Jamaica!, *Wils., Al., March.*

10. **B. glandulosa,** *Rich.* Shrubby; leaves elliptical or elliptical-lanceolate, bluntly acuminate or blunt, *tapering at the base,* glabrous: *two glandular spots beneath near the base;* racemes as long as the leaf: *pedicels articulated* and bibracteolate *below the middle;* anther-cells somewhat exceeded by the rounded connective; styles cohering: stigma peltate; drupes 2-celled, ovate, blunt.—*Cav. Diss.* 8. *t.* 239 *dextr. Juss. Monogr. t.* 8.—Malpighia, *Cav.* Bunch. nitida var. parvifolia, *Juss.!*—Leaves 3″–2″ long, 1½″–¾″ broad, rigid, membranaceous: glandular spots oval, often alternating upon the tapering leaf-base, or somewhat distant from it: petiole puberulous; pedicels articulated, 3‴–2″ above the base; drupes 6‴–8‴ long, 4‴ broad.—HAB. Dominica!, S. Vincent!, *Guild.;* [New Granada!, Peru!].

11. **B. Swartziana,** *Gr.* Shrubby; *leaves* small, lanceolate-elliptical or elliptical-lanceolate, bluntish or pointed, *tapering at the base,* glabrous: *two glandular spots beneath, below the middle;* racemes as long as the leaf: *pedicels articulated* and bibracteolate *above or near the base;* anther-cells nearly as long as the obovate connective; styles cohering: stigma peltate; *drupes 3-celled,* exactly *globose,* furrowed along the dissepimental lines.—Malpighia nitida, *Sw.* (*non Jacq., nec Cav.*). B. media, *Macf.!* (*non DC.*).—Confounded

hitherto with other species, but easily recognized by its small drupes. A shrub, 8′–2′ high; leaves 2″–1″ long, 8‴–6‴ broad, somewhat leathery and revolute on the margin: glandular spots roundish, 4‴–6‴ distant from the base (sometimes wanting in smaller leaves): petiole short, glabrous; racemes puberulous: pedicels articulated, usually 1‴ above the base; petals yellow; drupes 3‴ diam., red.—Hab. Jamaica!, *Macf.*, *March*, in the southern limestone districts.

12. **B. polystachya,** *DC.* "Leaves large, elliptical-oblong, pointedat both ends, glabrous, biglandular beneath near the base; pedicels articulated near the middle."—*Andr. Bot. Repos.* 9. *t.* 204 (Malpighia).—The character is taken from the figure: it answers nearly to *Malpighia nitida*, Cav. (Diss. 8. t. 239), or *Bunch. nitida grandifolia*, Juss., which, however, has a trifid style; another synonym seems to be *Malp. platyphylla*, Sw., of Guadeloupe, though referred by Jussieu to *B. glandulifera,* Kth.—Hab. Trinidad (*Andr.*).

3. SPACHEA, *Juss.*

Calyx 8–10-glandular. *Stamens* distinct (some of them sometimes abortive). *Styles* 2: stigmas emarginate-truncate. *Nut* 2-celled, at length dicoccous.—Leaves *glabrous*: stipules *axillary*; racemes *terminal, long, rusty-pilose.*

13. **Sp. elegans,** *Juss.* *Leaves* elliptical-oblong or oblong, pointleted or mucronate, 2–4-glandular beneath, *smooth on the upper surface;* one of the bracteoles transformed into a large gland; petals denticulate, rosy; stamens all fertile; nuts . . .—*Deless. Ic.* 3. *t.* 31.—Malpighia, *Mey. Esseq.!*—A tree; leaves 4″–5″ long, 1½″–2½″ broad; calyx usually 8-glandular; petals 3‴ long.—Hab. Trinidad!, *Pd.;* [Guiana!].

14. **Sp. perforata,** *Juss.!* *Leaves* lanceolate, acuminate at both ends, 4-glandular beneath, *minutely scrobiculate on the upper surface;* one of the bracteoles bearing a gland; petals subentire; stamens all fertile; nuts subglobose, deeply furrowed along the commissural line.—Sp. Ossana Vincentiana, *Juss.!*—Leaves 3½″–2″ long, 16‴–6‴ broad: the minute, pellucid dots more manifest than in the preceding; calyx 8-glandular; petals 2‴ long; nuts 2‴–1½‴ diam.—Hab. S. Vincent!, *Guild.*

4. MALPIGHIA, *L.*

Calyx 10–6-glandular. *Styles* 3, uncinate-truncate at the top. *Drupes* 3(–1)-pyrenous: pyrenæ with dorsal crests.—Shrubs; flowers *in axillary umbels or corymbs, rarely single, reddish.*

† *Leaves quite entire, glabrous: a few bicuspidate hairs early disappearing.*

15. **M. glabra,** *L.* *Leaves ovate,* usually pointed, *glabrous,* quite entire; *umbels* 3–5-(–7-)*flowered,* peduncled; calyx 6(–8)-glandular; drupes subglobose, obsoletely furrowed: pyrenæ obtusely 4-angular, bearing ribs on the back, the sides, and the inner face: interstices transversely rugose or irregularly tubercled.—*Cav. Diss.* 8. *t.* 234. *f.* 1.—M. nitida, *Mill.* M. undulata, *Juss.!*—Leaves (as in all species) variable, bluntish at the pointed top, or abruptly acuminate, rarely blunt; stamens inserted upon a perigynous disc; petals purple, more or less unequal; drupe scarlet, 2‴–4‴ diam.—Hab. Jamaica!: all coll., common in the lower hills; Antigua!, *Nichols.;* [Cuba! and Mexico!, to Guiana and New Granada!].

16. **M. punicifolia,** *L.* *Leaves elliptical,* usually blunt, *glabrous,* quite entire; *umbels* 2–1-flowered, sessile or peduncled; calyx 6-glandular; drupes subglobose, obsoletely furrowed: pyrenæ 4-angular: sides transversely rugose or tubercled.—*Plum. ed. Burm. t.* 166. *f.* 2. *Cav. Diss.* 8. *t.* 234. *f.* 2. *Tuss. Fl.* 3. *t.* 27. *Juss. Monogr. t.* 4.—M. biflora, *Poir.* M. uniflora, *Tuss.*—Very nearly related to the preceding, and I see no constant difference in the pyrenæ, the surface of which is to a certain degree subject to variation: the insertion of the stamens however is less perigynous.—Hab. Jamaica!, *Macf.*, *M'Nab,* in woods of the eastern districts; S. Kitts!, S. Vincent!, *Guild.;* [Mexico to Brazil].

†† *Leaves quite entire, with persistent, bicuspidate hairs beneath.*

17. **M. urens,** *L.* *Leaves* elliptical or oblong, quite entire, glabrous above, *with stinging hairs beneath;* umbels 3–5-flowered, peduncled or subsessile; calyx 10–8-glandular;

"*drupes globose*, even, or obsoletely furrowed."—M. martinicensis, *Jacq.*—Leaves very variable, pointed or bluntish, usually 3″ long, varying in breadth between 2″ and 4‴; "drupes 6‴ diam., purple (sometimes white)."

α. Leaves elliptical or oblong; calyx 10-glandular.—*Plum. ed. Burm. t.* 167. *f.* 1. *Cav. Diss.* 8. *t.* 235. *Desc. Fl.* 8. *t.* 569.—M. urens, *α et β*, *Juss.!*

β. *lanceolata*. Leaves lanceolate, bluntish; calyx 8-glandular; petals asymmetrical.—*Desc. Fl.* 1. *t.* 30.—M. urens *γ*, *Juss.* M. lanceolata, *Gr.*

HAB. S. Vincent! (*β*), *Guild.*; [Cuba! (*β*) to Guadeloupe! (*α et β*)].

18. **M. fucata,** *Ker. Leaves* large, elliptical, quite entire, glabrous above, *with stinging hairs beneath*; umbels aggregate or corymbose, nearly twice as long as the petiole; calyx 6-glandular; *drupes conical-globose, slightly 3-angular*, with 3 furrows at the base: pyrenæ keeled on the back and sides, tubercled.—Leaves 6″–8″ long, 2½″–3½″ broad, rounded at both ends; petals rosy, keeled; drupes 6‴ diam. or more.—HAB. Jamaica!, *Pd.*, near Manchester; [Crab island!].

19. **M. oxycocca,** *Gr. Leaves* lanceolate or ovate-lanceolate, quite entire, glabrous above, *with stinging hairs beneath*; flowers corymbose (sometimes umbellate): the corymb 2–3 times exceeded by the leaf; calyx 6-glandular; *drupes* dry, *triangular-pyramidal*, with sharp edges, and with slighter rugosities or keels on the sides: pyrenæ of a similar structure.—*Sl. t.* 207. *f.* 3.—M. urens, *Macf.* (*non L.*).—Leaves variable (sometimes elliptical), usually acuminate, 4″–1½″ long, 20‴–8‴ broad; corymbs usually many-flowered; petals purple; drupes 4‴ in length, and in breadth at the base, slightly furrowed at the base: sides usually with 2 contiguous keels at the commissural line.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, in the mountain woods of the eastern and northern districts; [Cuba!].

20. **M. angustifolia,** *L. Leaves* linear-lanceolate or lanceolate, quite entire, glabrous above, *with stinging hairs beneath*; corymbs few-flowered, 2–3 times exceeded by the leaf; calyx 6-glandular; *drupes ovoid*, 9-*costate*, with obtuse edges, and 3 furrows, which are deeper at the base: pyrenæ 3-costate, tubercled.—*Cav. Diss.* 8. *t.* 236. *f.* 1.—M. cubensis, *Kth.*: the form with lanceolate leaves.—Leaves 3″–1″ long, 4‴–6‴ broad, acuminate or bluntish; petals rosy; drupes 6‴ long, 4‴ broad.—HAB. Antigua!, *Nichols.*; [Cuba!, S. Thomas!, Guadeloupe!].

††† *Leaves dentate.*

21. **M. setosa,** *Spreng. Leaves* small, oval or obovate, glabrous above, *with stinging hairs beneath and on the denticulate margin*; umbels 2–1-flowered, shortly peduncled, exceeded a little by the leaf; calyx 10-glandular; drupes . . . .—M. polytricha, *Juss.*, being the only Bahama species in the Hook. Herb.—Leaves about 1″ long, ½″ broad.—HAB. Bahamas!, *Swains.*; [Haiti].

22. **M. coccigera,** *L. Leaves* roundish-oblong or oval, *sinuate-dentate* (the younger ones sometimes quite entire), *glabrous*: teeth distant, spinescent; umbels 1–2-flowered, sessile, exceeding the leaf; calyx 6-glandular; "drupes subglobose, with 3 furrows."—*Plum. Ed. Burm. t.* 168. *f.* 2. *Jacq. Ic. Rar. t.* 470. *Cav. Diss.* 8 *t.* 235. *f.* 2.—A shrub, creeping for some distance on the ground (*Imr.*); leaves 6‴ long, 5‴–4‴ broad, rounded at both ends, sometimes emarginate-tricuspidate.—HAB. Dominica!, *Imr.*, at S. Rupert's Head; [Cuba!, Martinique].

M. elliptica, Prl., is a doubtful Trinidad plant, and probably no congener.

TRIBE II. *BANISTERIEÆ.—Stamens* 10, *or fewer by abortion. Styles as many as there are carpels. Samaroid nuts, with a dorsal wing (or crest), inserted upon a pyramidal torus.*

5. BRACHYPTERIS, *Juss.*

Calyx 8-glandular. *Styles* 3: stigmas produced externally beyond the gland. *Nuts* with a short, dorsal, sharp crest above the base, wingless.—Scandent *shrubs*: branchlets *somewhat compressed*; leaves *quite entire*: petiole *biglandular at the top*; flowers *umbellate or corymbose*; pedicels *articulated at the base*; flowers *yellowish.*

23. **B. borealis,** *Juss.!* Branchlets obtuse-angled-compressed, pubescent; leaves ovate-lanceolate, glaucescent beneath, floral ones rounded; umbels 3-4-flowered; stamens 10, all

fertile; *appendage of the stigma linear-uncinate,* compressed; nuts costate laterally.—*Cav. Diss.* 9. *t.* 257. *f.* 1.—Banisteria ovata, *Cav.;* calcitrapa, *Desv.;* brachyptera, *DC.;* allophylla, *Rchb. !*—A shrub, a few feet high, trailing with scandent branches.—HAB. Jamaica !, *Macf.*, *Wils.*, in salt-marshes on the seaside, to Trinidad !, *Sieb. Tr.* 52; [Panama !, Guiana !, northern Brazil !].

6. STIGMAPHYLLON, *Juss.*

Calyx 8-glandular. *Stamens* 6 fertile, 4 abortive. *Styles* 3: stigmas produced externally into a leafy (or uncinate) appendage, or compressed-truncate. *Samaræ* with the wing thickened on the superior margin.—Climbing *shrubs;* petioles *biglandular;* flowers *in peduncled, umbelliform corymbs:* pedicels *articulated usually below the middle;* petals *yellow, large* ($4'''$–$5'''$ *long*), *fimbriate or dentate.*

Sect. 1. EUSTIGMAPHYLLON.—*Appendage of the stigma leafy. Pericarp crested transversely, or rugose, or even.*

24. **St. ciliatum,** *Juss. Leaves glabrous,* cordate, entire or repand, *ciliate* with distant fringes: *basilar lobes superincumbent:* petiole 2-glandular at the top; "pericarp rugose, without lateral crests: wing triangular, blunt, rounded at the base, as broad as or broader than the carpid."—*Cav. Diss.* 9. *t.* 254.—Banisteria, *Lam.*—HAB. Jamaica (*Juss.*); [Brazil !].

25. **St. adenodon,** *Juss. ! Leaves* glabrous above, *pubescent beneath* with scattered, appressed hairs, cordate or subcordate, pointleted, denticulate-repand, with the teeth glandular: *basilar sinus open* (or obsolete): petiole 2-glandular at the top; samara . . . .—Nearly related to the following.—HAB. Trinidad !, *Sch.*

26. **St. convolvulifolium,** *Juss. ! Leaves glabrous,* subcordate-ovate or cordate, pointleted, repand-entire, with distant minute glands on the margin: *basilar sinus short* or none: petiole 2-glandular at the top; pericarp with several lateral crests: wing oblong, blunt: inferior margin straight, superior curved at the top, and with an obtuse appendage at the back.—*Cav. Diss.* 9. *t.* 256.—Banisteria, *Cav.* B. dichotoma, *Mey. !*—HAB. Trinidad !, *Cr.;* [Martinique, Venezuela, Guiana !, Bahia !].

27. **St. fulgens,** *Juss. ! Leaves* glabrous above, *silvery beneath* with silky down, cordate-rounded, mucronulate, repand-entire: *basilar sinus open:* petiole 2-glandular a little below the top; peduncles divided; pericarp with a single lateral crest: wing semiobovate-oblong, blunt: inferior margin curved-obtuse-angled, superior straight, curved at the top, and with a deltoid appendage at the base.—*Cav. Diss.* 9. *t.* 253.—Banisteria, *Lam.* B. splendens, *DC.*—Pairs of prominent primary leaf-veins about 3–4.—HAB. S. Vincent !, *Guild.;* [Venezuela !, Guiana !, Pará !].

28. **St. puberum,** *Juss. ! Leaves* glabrous above, *glaucescent beneath* with minute silky down, *ovate* or elliptical-oblong, pointleted, quite entire: petiole 2-glandular at the top; pericarp even, puberulous, without lateral crests: wing rectangular-divergent, tapering from the broad base to the bluntish top: inferior margin straightish, superior obtuse-angled at the base, which is twice as broad as the carpid.—Banisteria fulgens, *DC.* (*non Lam.*), *Mey. Esseq. !*—Pairs of stronger primary leaf-veins about 7–8.—HAB. Dominica !, *Imr.;* [Cuba !, Guiana !, equatorial Brazil !].

Sect. 2. BÆOPTERIS.—*Appendage of the stigma compressed, truncate or uncinate. Pericarp pluricostate lengthwise.*

Banisteria pauciflora, Kth., of Cuba, is a link between *Bæopteris* and *Banisteria,* having the parallel pericarpal keels of the former, and the 4 transformed anthers of *Stigmaphyllon,* while in habit, inflorescence, and the capitate stigmas, it is a true *Banisteria:* the pedicels however are articulated above the base.

29. **St. emarginatum,** *Juss. ! Leaves* membranaceous, glabrate above, glaucescent, hoary *with silky down beneath,* oval-roundish or ovate, emarginate at both ends: *petiolar glands close to the leaf, sessile; pedicels articulated* and bibracteolate *below the middle;* stigmas compressed-truncate; pericarp costate: wing obovate-oblong, obtusate: inferior

margin obtuse-angled, superior curved a little at the top, and with a somewhat pointed basilar appendage.—*Cav. Diss.* 9. *t.* 249.—Banisteria, *Cav.* (*non DC.*). B. splendens, *Macf.!* (*exclus. synon. plur.*).—Only the Jamaica specimens of the collections represent the species figured by Cavanilles, which A. Jussieu, in several herbaria named by him, has confounded with the following.—HAB. Jamaica!, all coll., common in thickets.

30. **St. diversifolium,** *Juss.!* *Leaves* leathery, shining above, *pubescent or tomentose beneath*, ovate or oblong-linear, rounded or subcordate at the base: *petiolar glands close to the leaf, sessile; pedicels articulated at the base;* stigmas compressed-truncate; "samara like that of the following species" (*Juss.*).—Banisteria, *Kth.* B. emarginata, *DC.*, *et Pl. Carib.* (*non Cav.*).—HAB. Jamaica!, *Dist.;* Dominica!, *Imr.;* Trinidad!, *Sieb.*, *Lockh;* [Cuba!, Portorico!, Guadeloupe!].

31. **St. periplocifolium,** *Juss.!* *Leaves* leathery, *glabrous*, reticulated above, glaucescent beneath, ovate-oblong or linear, subcordate at the base: *petiolar glands close to the leaves, sessile; pedicels articulated* and bibracteolate *below the middle;* stigmas compressed-truncate; pericarp costate: wing oblong, blunt: inferior margin straightish, superior curved above, and with a somewhat pointed basilar appendage.—*Sl. t.* 162. *f.* 2.—Banisteria, *Desf.*—Articulation of the pedicels 2‴–3‴ above the base.—HAB. Jamaica!, *Pd.;* Antigua!, *Nichols.;* [Cuba! to Guiana; Guayaquil!].

32. **St. Sagræanum,** *Juss.!* *Leaves* rigid, *glabrous*, coarsely reticulated beneath, and in a lesser degree above, oval-oblong, oblong, or linear, rounded at the base: *petiolar glands distant a little from the lamina, stipitate; pedicels articulated at the base;* two stigmas compressed-truncate, the third uncinate; pericarp costate: wing oblong, blunt, both margins straightish, the superior with a somewhat pointed basilar appendage.—*Rich. Cub. t.* 28.—St. reticulatum, *Juss.:* a form with the upper surface of leaves shining, and devoid of prominent veins.—HAB. Bahamas!, *Swains.;* [Cuba!].

7. HETEROPTERIS, *Kth.*

Calyx usually 8-glandular. *Stamens* all fertile. *Styles* 3: stigmas compressed-truncate. *Samaræ* with the wing thickened on the inferior margin.—Inflorescence *usually paniculate;* petals *small, often keeled.*

Sect. 1. PTYCHETEROPTERIS.—*Pericarp foveolate on the ventral side, and with an interior projection into the cell.*—Leaves usually membranaceous.

33. **H. purpurea,** *Kth.* *Leaves* oval, membranaceous, *glabrous*, glaucescent beneath: *petiole* long, *2-glandular at the middle;* flowers corymbose or racemose: pedicels slender, articulated below the middle: bracteoles subulate-setaceous; petals purple; pericarp smooth: wings obliquely semiobovate, rounded at the top: process of the endocarp minute, conical.—*Cav. Diss.* 9. *t.* 246. *f.* 1.—Banisteria, *L.*—A low climber among shrubs; leaves 1″–1½′. long; samaræ 1″ long.—HAB. Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [S. Thomas! to Venezuela!].

34. **H. parviflora,** *DC.* *Leaves* membranaceous, glabrate above, *pubescent beneath: petiole* long, *2-glandular at the top;* flowers corymbose: pedicels slender, articulated below the middle: bracteoles subulate-setaceous; petals yellowish; "pericarp smooth: wing semiovate, with the inferior margin straight."—*Vent. Choix, t.* 51.—Banisteria, *Vent.*—HAB. Jamaica!, *Oerst.*, near Kingston; [S. Thomas].

Sect. 2. EUHETEROPTERIS.—*Pericarp smooth on the ventral side.*—Leaves coriaceous.

35. **H. platyptera,** *DC.* *Leaves* large, oblong or elliptical-oblong, *glabrous*, shining above, eglandular; racemes paniculate, rusty-tomentose: *pedicels* thickish, *articulated at the middle:* bracteoles ovate, somewhat pointed; petals yellow; pericarp smooth: wing large, oblong: superior margin produced above the cell.—Banisteria longifolia, *Sw.* B. macrocarpa, *Pers.* B. magnoliæfolia, *Desv.*—A high climber; leaves 8″–12″ long; samaræ 1½″–3″ long, variable in being straight or curved.—HAB. Dominica!, *Imr.*, S. Lucia (*Sw.*), in mountain woods: [Guadeloupe!; Panama!, Guiana!, equatorial Brazil!].

36. **H. laurifolia,** *Juss.!* *Leaves* oblong, elliptical, or elliptical-lanceolate, *glabrous, eglandular:* veins reticulated on both sides; racemes paniculate, rusty-pubescent: *pedicels*

articulated below the middle: bracteoles ovate-roundish; petals yellow; pericarp smooth: wing obovate, arcuate-ascending or horizontal: superior margin produced into a basilar deltoid appendage.—*Plum. Ed. Burm. t.* 14. *Cav. Diss.* 8. *t.* 242, 9. *t.* 243. *Bot. Reg. t.* 937.—Banisteria, *L., Sw.* B. cærulea, *Lam.* Heteropteris cærulea, *Kth., Juss.!:* there is no character to distinguish this: the blue colour of its petals rests merely upon the authority of Plumier, and is probably an old mistake, as the petals are undoubtedly yellow (*Sl., Macf.*), or a change of colour may perhaps take place with age, as according to the figure of the Bot. Reg. the pedicels are blue, while the petals are yellow.—A twining climber; leaves 3″–6″ long; samaræ 12‴–20‴ long, variable just as in the preceding, the wing being either constricted at the base, and ascending in an angle of about 40°, or not constricted and exactly horizontal.—Hab. Jamaica!, *Hartw., Al., March,* common, among shrubs; [Cuba! to Portorico!].

37. **H. Lindeniana,** *Juss.! Leaves* lanceolate or oblong-lanceolate, tapering towards the bluntish top, *glabrous, with a pair of small glands beneath* near the margin: petiole short; racemes paniculate, rusty pubescent; *pedicels articulated below the middle;* bracteoles oval; petals yellow; samaræ . . . .—H. acutifolia Vincentiana, *Juss.!*—Nearly related to the preceding, and to *H. suberosa*, Gr., of Guiana: the petiole only 1‴ long; leaves 4″–3″ long, 12‴–6‴ broad.—Hab. S. Vincent!, *Guild.;* [Yucatan!].

38. **H. macrostachya,** *Juss. Leaves* oval or oblong-oval, shining above, rusty or aurate *beneath with a silky down,* and with a series of glands along the margin: *petiole 2-glandular at the middle;* umbels 4-flowered, paniculate, rusty-sericeous: pedicels thickish, articulated at the middle: bracteoles minute, deltoid; petals yellow; pericarp smooth: wing large, oblong or semiobovate, straight: superior margin produced above the cell.—*Juss. Monogr. t.* 14: the samara.—A climber; samaræ 2½″ long, 10‴ broad above in the Trinidad form.—Hab. Trinidad!, *Cr.;* [Guiana, New Granada!, equatorial Brazil!].

Tribe III. *HIRÆACEÆ.—Stamens mostly* 10. *Styles* 3 (–1). *Samaroid nuts, with the principal wings lateral, inserted upon a pyramidal torus.*

8. TRIOPTERIS, *L.*

Calyx 8-glandular. *Stamens* all fertile. *Styles* 3: stigmas obliquely truncate. *Samaræ* with 3 lateral wings: two superior spreading, the third inferior, descending: dorsal line of the pericarp shortly crested.—Glabrous climbers; panicles *lax, constituted of distant racemes;* flowers *blue.*

39. **T. ovata,** *Cav. Leaves* chartaceous, elliptical-oblong, with 2 minute glands beneath and close to the petiole: *veins* irregularly *reticulated;* samara-wings semiobovate-oblong.—*Cav. Diss.* 9. *t.* 259. *Juss. Monogr. t.* 18.—T. jamaicensis, *Sw.!* Malpighia paniculata, *Mill.!* (Bunchosia, *DC.*). Hiræa Jussiæana, *Miq.!* (*exclus. descr. fruct.*).—A twining climber; leaves usually 2″–2½″ long; samara-wings 6‴ long.—Hab. Jamaica!, *Sw., Macf., Wils., March;* [Haiti; Surinam!].

40. **T. rigida,** *Sw.! Leaves* rigid, coriaceous, orbicular-obovate, elliptical or oblong-linear, eglandular, *lineate* with many parallel and anastomosing veins; samara-wings semiobovate.—A twining climber; leaves shining; samara-wings 5‴ long, inferior sometimes shorter.

α. Leaves broad, retuse or blunt.—*Kth. Nov. Gen.* 5. *t.* 451.—T. lucida, *Kth.* T. havanensis, *Kth.*—Leaves 1½″ long, 16‴–8‴ broad.

β. Leaves narrow.—*Jacq. Observ.* 3. *t.* 57.—T. jamaicensis, *L., Cliff.!* (*non Sw.*). Banisteria microphylla, *Jacq.* Triopteris parviflora, *Juss.!*—Leaves 12‴–6‴ long, 6‴–3‴ broad. Linnæus's name is not to be adopted: for he confounded different plants among his synonyms, and the species has not been observed in Jamaica; Swartz's homonym besides belongs to the preceding species.

Hab. Bahamas!, *Swains.* (*β*); [Cuba!, Haiti!].

9. TETRAPTERIS, *Cav.*

Calyx usually 8-glandular. *Stamens* all fertile. *Styles* 3: stigmas truncate. *Samaræ* with 4 lateral wings, 2 of which are superior, 2 inferior: dorsal line of the pericarp crested. —Umbels *or* corymbs *mostly paniculate;* petals *yellow.*

41. **T. inæqualis,** *Cav.* *Glabrous;* leaves ovate or elliptical, pointed, coriaceous: stipules interpetiolar, deciduous; umbels 4-flowered, paniculate: pedicels articulated at or below the middle; *samara exappendiculate* between the dorsal crest and the wings: superior wings twice as long as the inferior ones.—*Cav. Diss.* 9. *t.* 260.—T. citrifolia, *Sw.*—A high, trailing climber.—Hab. Jamaica!, *Pd.*, *Wils.*; [Costarica!, equatorial Brazil!].

42. **T. discolor,** *DC.* Leaves elliptical or elliptical-oblong, bluntish or pointleted, coriaceous, glabrous: stipules interpetiolar, deciduous; umbels 4-flowered, paniculate: *pedicels hoary pubescent,* articulated at the middle; *samara furnished with several lamellar appendages* between the dorsal crest and the wings: superior wing 3–4 times as long as the inferior ones.—Triopteris, *Mey. Esseq.!* Tetrapteris trinitensis, *Juss.!*—A climber.—Hab. Trinidad!, *Pd.*, *Cr.*; [Guiana!].

10. MASCAGNIA, *Bert.*

Calyx usually 8-glandular. *Stamens* all fertile. *Styles* 3: stigmas compressed-truncate. *Samaræ* either encircled by a solitary lateral wing, or with two wings, one on each side.—Flowers *usually racemose, or corymbose:* pedicels *articulated above the base.*

Sect. 1. Eumascagnia.—*Pericarp encircled by a solitary lateral wing.*

43. **M. ovatifolia,** *Gr.* Leaves chartaceous, ovate or elliptical, apiculate, glabrous, glandular at the base beneath: petiole eglandular; corymbs paniculate: pedicels pubescent, slender, articulated near the base: bracteoles setaceous, distant a little from the knee; petals . . .; *samara-wing orbicular,* emarginate at the top, glabrous: dorsal crest minute.—Hiræa, *Kth.*, *Juss.!*—A climber; leaves 4″–3″ long; samara-wing 1″ diameter, bearing the carpid a little above the middle.—Hab. Trinidad!, *Lockh.*, *Cr.*; [Venezuela].

Sect. 2. Pleuropteris.—*Lateral samara-wings distinct: dorsal crest much smaller, or none.*

44. **M. Simsiana,** *Gr.* Leaves chartaceous, elliptical-oblong or ovate-lanceolate, glabrous: *petiole 2-glandular* above the middle; corymbs paniculate: pedicels articulated and 2-bracteolate towards the middle; petals yellow, pubescent; *samara-wings* 2, *obversely deltoid,* exceeding 3–4 times the dorsal crest.—*Bot. Mag. t.* 809: not sufficient.—Byrsonima volubilis, *DC.* Hiræa Simsiana, *Juss.!*—A climber; leaves about 5″–6″ long; samara-wings 6‴–7‴ long.—Hab. Jamaica!, *Wright, Dist.*, *Pd.*; S. Vincent!, *Guild.*; [Guiana].

XI. HIRÆA, *Jacq.*

Stamens all fertile. *Styles* 3: stigmas compressed-truncate. *Samara* with lateral wings, one on each side. *Embryo:* one of the cotyledons abortive.—Leaves *penninerved: primary veins impressed above, prominent beneath: petiole 2-glandular, and furnished above the base with 2 persistent, cylindrical-acuminate stipules;* umbels *usually 4-flowered, lateral: pedicels articulated at the base.*

45. **H. Ridleyana,** *Juss.* *Leaves* obovate-oblong or oblong, quite entire, *glabrous,* with the midrib whitish-pubescent beneath: *primary veins numerous,* 12–14 on each side: *petiole* puberulous, *stipulate* and 2-glandular *below the top;* calyx 8-glandular; samaræ puberulous: wings dilated, sinuate-repand. –Leaves 6″–4″ long, 2½″–1½″ broad: stipules inserted ½‴ below the top of the petiole.—Hab. Trinidad!, *Cr.*; [Guiana].

46. **H. reclinata,** *Jacq.* *Leaves* obovate-oblong, blunt at the base, furnished with distant sessile glands on the margin above the middle, *glabrate,* with a whitish down persistent on the midrib beneath: primary veins 8–10 on each side: *petiole* pubescent, *stipulate below* and 2-glandular above *the middle;* calyx 8–10-glandular, or eglandular; samaræ . . .: "wings roundish."—*Jacq. Amer. Pict. t.* 260. *f.* 37: a leaf.—H. Hookeriana, *Juss.!*: the form with the glanduliferous calyx.—A shrub, about 15′ high: branches trailing, pubescent; leaves 4″–3″ long, 2″–1″ broad, puberulous and at length glabrous: stipules inserted 2‴ above the base, 3‴ below the top of the petiole.—Hab. Trinidad!, *Sch.*, *Lockh.*, *Cr.*; [Venezuela].

47. **H. Swartziana,** *Juss.* *Leaves* elliptical-oblong, pointleted with a mucronate top,

quite entire, glabrous above, *silvery* with a silky down *beneath*: primary veins 10–12 on each side: *petiole stipulate above the middle*, 2-glandular near the top; calyx eglandular, or 8-glandular; *samara* pubescent: *wings reniform-roundish*, sinuate on the outer margin.—Malpighia faginea, *Sw.!*—A climbing shrub; leaves 5″–3″ long, 2½″–1″ broad: stipules inserted 2‴ above the base, 1‴ below the top of the petiole.—HAB. Grenada, *Masson;* [Nicaragua!, Guiana!].

48. **H. chrysophylla,** *Juss.!* *Leaves* elliptical-oblong, pointleted, quite entire, glabrous above, *aurate* with a silky down beneath: primary veins 10–12 on each side: *petiole stipulate below* and 2-glandular near *the top;* calyx 8–10-glandular; *samara* pubescent: *wings* 2–4-*partite*, or -lobed.—*Gr. in Mart. Fl. Bras.* 21. *t.* 20.—A shrub; leaves 5″–3″ long, 2½″–1″ broad: stipules inserted ½‴–1‴ below the top of the petiole.—HAB. S. Lucia!, *Anders.;* [Guiana, equatorial Brazil!].

XLII. SAPINDACEÆ.

Sepals 3–4, usually distinct. *Petals* 4 (5–0), often bearing internally a scale, separated from the stamens by a disc or glands. *Stamens* usually 8. *Pistil* syncarpous: style single, usually 3-fid: ovary 3(2–4)-celled: cells 1–2(–3)-ovulate: ovules, if single, mostly erect. *Seeds* often arillate. *Embryo* exalbuminous: radicle mostly inferior.—Climbers *or* woody plants; leaves *mostly alternate, compound (or reduced to a single lamina);* flowers *small, racemose or paniculate, often polygamous.*

Bitter and poisonous substances are common in this Order (*Paullinia, Serjania*): eatable berries or seeds, however, occur likewise (*Melicocca, Dodonæa,* and the fleshy arillus of *Blighia sapida*). In some genera there are resinous-aromatic properties (*Dodonæa*), and others contain a peculiar saponaceous matter (*Sapindus*).

TRIBE I. *SAPINDEÆ.—Stamens interior to the disc or glands. Ovules solitary.*

1. CARDIOSPERMUM, *L.*

Sepals 4: two interior larger. *Petals* 4, asymmetrical, bearing scales. *Glands* 2, opposite the inferior petals. *Stamens* 8. *Capsule* vesicular-inflated, at length loculicidal. *Seeds* globose, crustaceous, arillate: embryo convolute.—Climbing herbs; leaves *biternately compound, exstipulate;* corymbs *axillary, peduncled:* peduncles *with* 2 *tendrils near the top;* pedicels *articulated near the middle;* flowers *white.*

1. **C. Halicacabum,** *L.* Leaflets biternate, incised and obtusely serrate, terminal pointed; *disc-glands roundish;* superior petals spathulate, 4 times as long as the outer sepals; *capsule subglobose*, large, rounded at the top.—*Desc. Fl.* 4. *t.* 241.—C. Corindum, *L. in* [illegible] *Bks.!* C. molle, *Kth.;* loxense, *Kth.;* villosum, *Macf.;* corycodes, *Kz.;* Halicacabum, *α et δ, Bl.*—Annual, pubescent or glabrate; petals 2‴–3‴ long; capsule 1″ long, pubescent or glabrous.—HAB. Jamaica!, *Pd.;* S. Vincent!, *Guild.*, common; [Texas! and Mexico! to Brazil! and Montevideo!, Niger!, Tsad!, Nubia!, Arabia!, East Indies!, Galapagos!].

2. **C. microcarpum,** *Kth.* Leaflets biternate, incised and obtusely serrate, terminal acuminate; *disc-glands roundish;* superior petals obovate, 3 times as long as the outer sepals; *capsule turbinate-roundish*, small, triangular, depressed at the top.—C. acuminatum, *Miq.!* Halicacabum (β et γ), *Bl.*—Annual, glabrous; petals 1‴–1½‴ long; capsule 4‴ long and broad.—HAB. Dominica!, *Imr.;* Grenada!, *Finl.;* Trinidad!, *Cr.;* [Venezuela! to Pará!, Syene!, Nubia!, Cape!, East Indies!, Pacific Islands!].

3. **C. grandiflorum,** *Sw.* Suffrutescent; leaflets biternate, ovate, deeply serrate, pointleted, puberulous beneath: serratures pointed; *disc-glands cylindrical;* superior petals obovate, 6 times as long as the outer sepals, tipped at the top with yellow; *capsule* very large, *elliptical*, angular, pointed at both ends.—Petals 6‴, capsule 3″ long.—HAB. Jamaica!, *Macf., Dist., Wils., Al., March,* common in thickets.

2. URVILLEA, *Kth.*

Sepals 5. *Petals* 4, bearing scales. *Stamens* 8, interior to 4–2 glands. *Samaræ* 3,

connected in the axis, at length separating from each other: wings surrounding the cells. *Seeds* crustaceous, arillate: cotyledons thick, fleshy, straightish.—Climbing shrubs; leaves *ternate, stipulate*; racemes *juxta-axillary, peduncled;* peduncles *with* 2 *tendrils near the top;* pedicels *fascicled, articulated near the middle;* flowers *whitish.*

4. **U. seriana,** *Gr.* Leaflets ovate, coarsely serrate, or incised, the middle cuneate at the base; *racemes much exceeding the leaf;* disc-glands 2, one inferior, one superior, both emarginate; samara-wings semiobovate.—*Gærtn. Carp. t.* 79.—Paullinia, *L., Cliff.* (*ex descr.*). Serjania sinuata, *Schum.* Urv. Berteriana, *DC.*—Branchlets and leaves pubescent or glabrate; racemes 4″–2″ long, about twice as long as the peduncle, which is inflexed at the tendrils and equals the leaf; samaræ ·1″ long; cell in a central position with respect to the wing.—Hab. S. Vincent!, *Guild.;* Grenada!, *Lane;* Trinidad!, *Cr.;* [Nicaragua!, Venezuela!].

3. SERJANIA, *Kth.*

(Cururu, *Sw.*)

Sepals 5. *Petals* 4, bearing scales. *Stamens* 8, interior to 4–2 glands. *Samaræ* 3, connected in the axis: wings basilar, decurrent along the carpophore: cells villous within. *Seeds* crustaceous, usually with a minute arillus: cotyledons incurved.—Shrubs, climbing by peduncular or axillary tendrils; leaves *stipulate;* racemes *juxta-axillary, simple or compound.*

* *Leaves punctate with pellucid lines and dots.*

5. **S. paniculata,** *Kth.* Branchlets puberulous; *leaves biternate, dotted:* leaflets ovate, serrate, glabrous, shining above: *petiole naked, trigonal; samaræ* puberulous above; *wing semiobovate-oblong,* wholly inferior, not lining the back of the cell, which is obsoletely veined on the surface.—*Kth. Nov. Gen. t.* 441.—S. equestris, *Macf.:* a form with the racemes compound.—Leaflets variable, 1″–2″ long, tufted with hairs in the vein-axils beneath; samaræ 8‴ long, and as broad below, 4‴–5‴ broad above.—Hab. Jamaica!, *Wils., Macf.*, common; [Cuba to Venezuela].

6. **S. lucida,** *Schum.* Branchlets glabrous; *leaves biternate, dotted: leaflets* ovate, subentire, glabrous, shining above: *petiole lined above with a narrow margin; samaræ glabrous:* wing semiobcordate, lining usually the back of the wing or glabrous cell.—S. Ossana, *DC.*—Leaflets 5″–2″ long; samaræ 10‴–8‴ long, 8‴ broad below, 5‴–6‴ broad above. —Hab. Jamaica!, *Wullsch.*, Manchester: [Cuba, S. Thomas!].

7. **S. divaricata,** *Sw.* Branchlets puberulous or glabrate; *leaves biternate, dotted:* leaflets large, elliptical, subentire, glabrous: petiole naked, or lined by a very narrow margin; *samaræ* pubescent: *wing semiobcordate,* wholly inferior, not lining the back of the smooth cell.—Paullinia, *Sw., olim.*—A high climber; leaflets 3″–6″ long, some of them sometimes abortive; racemes long, in lax panicles; samaræ 8‴ long, 6‴–8‴ broad below, 4‴ broad above.—Hab. Jamaica!, *Dist., Wils., Al., March,* common in mountain-woods.

** *Leaves opaque.*

8. **S. paucidentata,** *DC.* Branchlets glabrate; *leaves biternate, not dotted:* leaflets elliptical, subentire, and with 2–4 large crenatures near the blunt top, glabrous: *petiole lined by a narrow wing; samaræ* pubescent above: *wing semiobcordate,* wholly inferior, not lining the back of the small, smooth cell.—Leaflets 2″–4″ long: petiolar wings tapering towards the base; samaræ 1″ long, 10‴ broad at the base, 3‴ broad at the top.—Hab. Trinidad!, *Cr.;* [Guiana].

S. angustifolia, W., said to occur in Jamaica, is remarkable by the foliaceous petioles (*Desc. Fl.* 4. *t.* 237).

4. PAULLINIA, *L.*

Sepals 5, distinct (or two of them combined). *Petals* 4, bearing scales. *Stamens* 8, interior to 2–4 glands. *Capsule* septicidal, 3-celled (or by abortion 1-celled). *Seeds* crustaceous, arillate.—Shrubs, *climbing by peduncular or axillary tendrils;* leaves *stipulate;* racemes *axillary or juxta-axillary;* capsules *usually pubescent within.*

* *Leaves biternate.*

9. **P. barbadensis,** *Jacq.* *Leaves biternate, not dotted:* leaflets spathulate or elliptical-lanceolate, subentire or crenate-repand above, glabrous: *petiole lined by a narrow margin,* naked below the division; *capsule 3-winged nearly to the axis,* tapering very shortly at the base, puberulous or glabrate: wings semi-oval.—*Jacq. Obs. t.* 62. *f.* 9. *et* 7: the leaf.—P. caribæa, *Jacq.:* a form with the petiole muricate below.—Leaflets 2″–1″ long; racemes simple, peduncled: capsule 6‴ long, 4‴–5‴ broad: cells lanceolate; seeds somewhat compressed, semiobovate, 2‴ long, black, half-covered with the brown arillus.—Hab. Jamaica!, *Macf., Wils., March;* Caribbean Islands (*Jacq.*).

10. **P. curassavica,** *Jacq.!* *Leaves biternate, dotted* with pellucid lines: leaflets rhomboid or elliptical-oblong, with distant, large, blunt serratures above the middle, glabrous: *petiole lined by a narrow wing,* naked below the division; *capsule wingless,* pyriform, glabrous: upper part subglobose, obsoletely 3-furrowed, tapering abruptly into the carpophore.—*Jacq. Obs. t.* 61. *f.* 8: the leaf.—P. jamaicensis, *Macf.*—Leaflets 4″–1½″ long, membranaceous; capsule 5‴–6‴ long, 4‴ broad above, cylindrical and ½‴ diam. at the base: cells hemispherical-convex; seeds globose, black, more than half-covered with the brown, bipartite, foliaceous arillus.—Hab Jamaica!, all coll., in the limestone districts; [New Granada!].

P. curassavica, Gr. (*Pl. Carib.,* and probably *L. Cliff.* "ob fruct. triquetrum"), of Guadeloupe (and Brazil!), is another species, with a winged capsule and opaque leaves: but I have reformed the names from the original specimens of *P. curassavica,* Jacq.! and Sw.!, in the Banksian collection.

** *Leaves impari-pinnate, with the lowest division ternate.*

11. **P. ingifolia,** *Rich.* *Leaves impari-pinnate,* not dotted: *lowest division ternate:* leaflets 3-jugal, ovate-oblong, glabrous, subentire or with some distant serratures: petiole lined by a narrow wing below the uppermost division, naked from the middle one to the base; *capsule 3-winged* nearly to the axis, pyriform, tapering gradually into the carpophore, glabrous: wings thickened towards the cell.—Leaflets 5″–2″ long; capsule 9‴ long, 6‴ broad above: cells lanceolate; carpophore 3‴ long, filiform, and dilated: triquetrous at the top.—Hab. Trinidad!, *Lockh., Cr.;* [Guiana].

*** *Leaves simply impari-pinnate.*

12. **P. Vespertilio,** *Sw.!* *Leaves impari-pinnate,* not dotted: leaflets 2-jugal, glabrous, ovate-oblong, with distant serratures above: *petiole naked; capsule* ovoid-globose, stipitate, *3-winged at the top:* wings oblong-linear, blunt, horizontally spreading.—Racemes exceeded by the leaf; capsule 4‴–6‴ long, 3‴–4‴ broad; wings 6‴ long, ½‴ broad.—Hab. S. Kitts!, *Masson;* S. Lucia!, S. Vincent!, *Anders.*

13. **P. pinnata,** *L.* *Leaves impari-pinnate,* not dotted: leaflets 2-jugal, glabrous, ovate-oblong, or oblong-lanceolate, with distant, coarse serratures: *petiole winged to the base; capsule pyriform, wingless.—Plum. Descr. t.* 91. *Gærtn. Carp. t.* 79.—P. diversifolia, *Miq.!;* nitida, *Steud.;* Hostmanni, *Steud.*—A high climber; leaflets 3″–6″ long; racemes as long as or exceeded by the leaves; capsule variable in its longitudinal diameter.—Hab. Dominica!, *Finl.;* S. Lucia!, *Anders.;* Trinidad!, *Cr.;* [Panama!, Venezuela!, Guiana!, Brazil!, Peru!, Senegambia!, Niger!: the only *Paullinia* which has migrated from America across the Atlantic].

14. **P. leiocarpa,** *Gr.* (*n. sp.*). *Leaves impari-pinnate, not dotted:* leaflets 2-jugal, puberulous or glabrate, ovate or ovate-oblong, with a few blunt or obsolete serratures towards the top: *petiole winged to the base; capsule globose, smooth, subsessile.*—Stem angular: branchlets and racemes pilose; leaflets 3″–4″ long, penninerved: petiole foliaceous, 4‴ broad, tapering towards the divisions: stipules minute, roundish; racemes spiciform, subsessile, exceeded by the petiole; flower . . .; capsule brown, polished, with three obsolete, filiform, longitudinal keels, 12‴ long, 10‴ broad, 3(–1)-spermous; seeds crustaceous, purple-black, obovoid, 3 times as long as the whitish, bipartite arillus: cotyledons fleshy, semiglobose, contiguous, scarcely incurved at the top.—Hab. Trinidad!, *Cr.*

15. **P. sphærocarpa,** *Rich.* *Leaves impari-pinnate, dotted* with pellucid, branched

lines: leaflets 2-jugal, glabrous, ovate or ovate-oblong, with distant, blunt or obsolete serratures above the middle: *petiole naked below*, and with a narrow margin towards the top only; "*capsule globose, smooth.*"—Leaflets 5″–3″ long, pointleted with a blunt point: petiolar margin tapering downwards, and disappearing above the inferior division; racemes puberulous, nearly sessile, as long as the leaves.—HAB. Dominica!, *Imr.*; [Guiana: the African habitat in DC. Prodr. being a misprint].

Of other *Paulliniæ*, said to be West Indian, *P. Cururu*, L., has ternate leaves; *P. tomentosa*, Jacq. (Observ. t. 10), has tomentose leaves and capsules.

5. CUPANIA, *L.*

Sepals 5, imbricative. *Petals* 5. *Stamens* 8 (–10): disc complete. *Capsule* 3(–1)-celled, loculicidal: seeds crustaceous, arillate.—Trees *or* erect shrubs; leaves *pinnate*; racemes *axillary*.

16. **C. glabra,** *Sw.* Branchlets glabrate; *leaflets* abruptly 2–5(–8)-jugal, *glabrous*, alternate, oblong or elliptical, quite entire, or crenate-repand: principal veins 6–10 on each side; racemes tomentose; petals roundish, naked, as long as the sepals; stamens 8, exserted; style shortly 3-fid; *capsule glabrous*, trigonal-turbinate or subglobose, 3-keeled: *cells as long as the carpophore;* seeds globose-subcompressed, semi-immersed within the arillus.—*Rich. Cub. t.* 31.—C. multijuga, *Rich.*: a variety with the leaflets 5–8-jugal. C. lævigata, *Miq.*, *Seem.!*: the form with the leaflets entire. Sapindus glabrescens, *Hook.!*: a form with the leaflets puberulous beneath.—A tree; axils of primary leaflet-veins tufted with hairs, or glabrous; capsule 9‴–10‴ long, 8‴ broad at the mucronate top. carpophore cylindrical, sometimes dilated above; seeds brown.—HAB. Jamaica!, *Macf.*, *Dist.*, *Al.*, *March*, common in the lower hills; [Cuba!, Mexico!, Panama!, Guiana].

16. **C. Americana,** *L.* Branchlets tomentose; *leaflets* abruptly 2–4(–6)-jugal, *scabrous-pubescent beneath* (or glabrate), alternate, obovate-oblong, blunt, serrate or repand: principal veins 10–16 on each side, equidistant; racemes paniculate, tomentose; petals cucullate-cuneate, naked, as long as the sepals; stamens 8, exserted; style 3-fid; *capsule tomentose*, trigonal-subglobose, obtusely 3-keeled: *cells much larger than the short carpophore;* seeds ovoid-globose, shining, arillate at the base.—*Plum. Ed. Burm. t.* 110; *Desc. Fl.* 2. *t.* 89.—C. tomentosa, *Sw.*: the form with serrate leaflets. C. saponarioides, *Sw.*: the form with repand-entire leaflets.—A tree; leaflets 3″–7″ long, usually with sinuate, mucronulate serratures; capsule 10‴ long and broad: carpophore thickish, cylindrical, 2‴–3″ long; seeds nearly black, 3 times as long as the yellowish arillus.—HAB. Trinidad!, *Lockh.*, *Cr.*; [Cuba!, Guadeloupe!, Venezuela!].

C. fulva, Mart. (*C. triquetra*, Rich. Cub.), is a similar species, ranging from Cuba and the Virgin Islands to Guiana! and Pernambuco!: it is well distinguished by having a sharply 3-angular, turbinate capsule.

6*. BLIGHIA, *Kœn.*

Sepals 5, imbricative. *Petals* 5, bearing scales. *Stamens* 8: disc complete. *Pericarp* fleshy, dehiscent, 3-celled: seeds crustaceous, with a large fleshy arillus.—A tree; leaves *pinnate*; racemes *axillary*.

18*. **B. sapida,** *Kœn.*—*Tuss. Fl.* 1. *t.* 3; *Desc. Fl.* 8. *t.* 560.—Cupania, *Camb.* Akeesia africana, *Tuss.*—Leaflets 3–4-jugal, obovate-oblong, quite entire, 3″ long; flowers pubescent; petals white, oblong: scale large, bilobed; stamens exserted, hairy below, inserted within the entire disc; style 3-fid; fruit red, obovate-oblong, obtusely 3-gonal, blunt at both ends, about 4″ long: seeds black, ⅓ longer than the white, eatable arillus.—HAB. Naturalized in Jamaica!, *Dist.*; [introduced from Western Africa].

7. RATONIA, *DC. emend.*

(Arytæa, *Bl.*)

Calyx 5-fid, valvar. *Petals* 0 (–5). *Stamens* 8 (–10), inserted within the complete disc. *Capsule* 3(–1)-celled, 3(–2)-lobed to the middle: lobes subcompressed, cymbiform, dehiscent above along the dorsal line: seeds crustaceous, arillate.—Trees; leaves *abruptly pinnate*; racemes *paniculate*.

Arytæa, Bl., is not sufficiently distinguished by having minute petals.

19. **R. apetala,** *Gr.* *Leaves opposite:* leaflets 3–8-jugal, obliquely opposite, not dotted, lanceolate-oblong, quite entire, glabrous; panicles terminal and axillary, puberulous, polygamous; petals 0; stamens 8, exserted: anthers subglobose; style 3-fid at the top; capsule 3-lobed, stipitate, coriaceous.—*Rich. Cub. t.* 32.—Cupania, *Macf.!* C. oppositifolia, *Rich.* C. juglandifolia, *Rich.* (except the leaves).—A middle-sized tree; leaves exstipulate: leaflets 3″–2″ long; flowers minute, ½‴ long; disc and pistil villous; capsule glabrous, reddish, 8‴ long, 6‴ broad above: cells obovate-compressed, 4‴ long, as long as the cylindrical carpophore, with the lobes divergent and dehiscent above the contracted, septiferous axis: seeds compressed, roundish, black, with a yellowish-white arillus at the base.—Hab. Jamaica!, *Macf.*, *Wils.*, *Al.*, in mountain-woods; [Cuba].

8. SAPINDUS, *L.*

Sepals 5 (–4), imbricative. *Petals* as many. *Stamens* 8 (4–10): disc complete. *Pericarp* fleshy, 3 (–4)-coccous, or usually by abortion 2–1-coccous: carpids indehiscent: seeds bony, not arillate.—Trees; leaves *abruptly pinnate;* racemes *paniculate.*

20. **S. Saponaria,** *L.* Leaflets alternate, 5–4-jugal, oblong-lanceolate or elliptical, pubescent beneath: *rhachis broadly winged;* panicle pubescent; petals ...; carpids globose, 1 (–4).—Carpids black.—Hab. Jamaica!, *Dist.*, common; [Venezuela!].

21. **S. inæqualis,** *DC.* Leaflets alternate, 5–3(–1)-jugal, oblong-lanceolate, acuminate, or lower ones elliptical, glabrous: *rhachis marginate, or naked;* panicle pubescent; petals ciliate, bearing a minute scale; carpids globose, usually solitary by abortion.—*Desc. Fl.* 4. *t.* 261.—S. Saponaria, *Lane, Rich. Cub.* S. Forsythii, *DC.?*—Carpids 8‴ diam., shining-brown.—Hab. Antigua!, *Nichols.;* S. Vincent!, *Guild.;* [Cuba, Venezuela!, Brazil!].

9. SCHMIDELIA, *Sw.*

(Allophylus, *L.*, *Bl.*)

Sepals 4. *Petals* 4. *Glands* 4, opposite the petals. *Stamens* 8. *Pericarp* 2(–3)-coccous, or usually by abortion 1-coccous: carpid indehiscent or opened by rupture, crustaceous within: seeds with a membranaceous testa, not arillate.—Trees *or* erect shrubs; leaves *ternate* (*or* 1-*foliolate*); racemes *axillary, often divided;* flowers *fasciculate.*

22. **Schm. Cominia,** *Sw.* Branchlets, petioles, *leaf-nerves*, and racemes *rusty-velutinous; leaflets* 3, *petiolulate*, elliptical, *serrulate* with accumbent serratures above the middle, glabrous between the ribs above, pubescent or glabrate beneath; racemes divided, twice as long as the petiole; petals naked; style bifid at the top; carpids globose-obovoid, orange-coloured.—*Sl. t.* 208. *f.* 1.—Rhus, *L.* Rh. arborea, *DC.* (*ex syn. Sl.*, *non Macf.*)—A low or middle-sized tree, or a shrub; leaflets variable in the number and size of the serratures; carpids somewhat dry, sessile, 2‴ long, 1½‴ broad.—Hab. Jamaica!: all coll., common in the lower hills; [Cuba!, Haiti!].

23. **Schm. glabrata,** *Kth.* *Glabrous; leaflets* 3, *petiolulate*, elliptical, *quite entire*, or repand; racemes divided, nearly as long as the petiole; petals naked; style ...; carpids obovoid.—A tree; leaflets 5″–3″ long, bluntish, or pointleted with a blunt point; carpids somewhat dry, subsessile, 4‴–3‴ long, 2‴ broad.—Hab. Jamaica!, *Al.*, *Wils.;* [New Granada].

24. **Schm. occidentalis,** *Sw.* Branchlets, petioles, and racemes pubescent; *leaflets* 3, *subsessile*, elliptical, *sinuate-serrate* with spreading serratures, glabrous above, *pubescent beneath;* racemes simple, or divided below, as long as or exceeded by the petiole; petals naked; style bifid at the top; carpids obovoid, red.—A shrub; lateral leaflets oblique; carpids somewhat dry, subsessile, 4‴–3‴ long, 2‴ broad.—Hab. S. Lucia!, S. Vincent!, *Anders.;* [Cuba! to Minas Geraes!].

10. THOUINIA, *Poit.*

Sepals 4–5. *Petals* as many, naked. *Stamens* 8–10: disc complete. *Samaræ* 3, at length separating from each other: wing dorsal. *Seeds* with a membranaceous testa, not arillate.—Trees *or* shrubs; racemes *axillary.*

25. **Th. discolor,** *Gr.* (*n. sp.*) Branchlets and petioles tomentose; *leaves ternate: leaflets* sessile, lanceolate-elliptical, blunt, *quite entire,* glabrous above, *white beneath* with a minute velutinous down; racemes simple; petals 4, exceeding the calyx; samaræ ....—Leaflets 2″–1½″ long, 10‴–8‴ broad, rounded or somewhat emarginate at the top: petiole 4‴–6‴ long; racemes shortly peduncled, pubescent, nearly as long as the leaves: pedicels fascicled, 2‴ long; flowers polygamous; petals roundish, 1‴ long; stamens 8, exserted, hypogynous within the crenate disc; style 3-fid at the top, exserted. Habit of *Th. trifoliata,* Poit., and distinguished from *Th. tomentosa,* DC., by having quite entire leaflets: *Schmid. nervosa,* Rich., is a fourth West Indian species of this genus.—Hab. Bahamas!, *Swains.*

11. MELICOCCA, *L.*

Calyx 4-partite: segments imbricative. *Petals* 4, naked. *Stamens* 8: disc complete. *Ovary* 2-celled: stigma peltate, subsessile. *Berry* 2–1-spermous.—Trees; leaves *abruptly pinnate;* racemes *divided.*

26. **M. bijuga,** *L.* Leaflets bijugal, elliptical or elliptical-lanceolate, quite entire, glabrous; panicle terminal; *berry ovoid.—Jacq. Amer. Pict. t.* 109.—A tree, 40′–50′ high; berry green, 1″–1½″ long.—Hab. Trinidad!, *Sch.;* naturalized in Jamaica!, *Dist., Al., Wils.;* [Guiana, New Granada!].

12. HYPELATE, *P. Br.*

(Exothea, *Macf.*)

Sepals 5. *Petals* as many. *Stamens* 8: disc complete. *Ovary* 2(–3)-celled: style short, simple; ovules pendulous. *Berry* 1(–2)-spermous: endocarp chartaceous. *Seed* crustaceous, not arillate.—Shrubs *or* trees; leaflets *glabrous, shining, quite entire;* flowers *corymbose or paniculate.*

27. **H. trifoliata,** *Sw.!* *Leaves ternate:* leaflets spathulate, lineate with oblique veins; corymbs glabrous, axillary, equalling the leaf: pedicels slender; *sepals* glabrous, *deciduous;* berry ovoid-globose, black.—*Deless. Ic.* 3. *t.* 39: a form distinguished from our plant by racemose flowers.—A high shrub, or slender tree; leaflets 20‴–12‴ long, 8‴–6‴ broad; berry 4‴ long, 3‴ broad.—Hab. Jamaica!, *Wils., March,* in the southern limestone districts; [Cuba!].

28. **H. paniculata,** *Camb.* *Leaves abruptly pinnate:* leaflets 2(–1–3)-jugal, oblong, usually blunt; corymbs in a terminal panicle, hoary-pubescent; *sepals* tomentose, *persistent;* berry globose, purple.—*Mem. Mus.* 3. *t.* 5; *Lond. Journ. of Bot.* 3. *t.* 7.—Melicocca, *Juss.* Exothea oblongifolia, *Macf.!* Hyp. oblongifolia, *Hook.!* H. trifoliata, *Gr. Pl. Carib.*—A low, or middle-sized tree; leaflets 4″–1½″ long, 16‴–8‴ broad: pairs usually somewhat approximate; berry 6‴ diam.—Hab. Jamaica!, *Macf., March,* in the mountains: [Cuba!, Désirade!].

Tribe II. *DODONÆEÆ.—Stamens inserted into the hypogynous disc. Ovules* 2 *in each ovary-cell, superior erect, inferior pendulous.*

13. DODONÆA, *L.*

Sepals 4 (5–3). *Petals* 0. *Stamens* 8 (6–10). *Capsule* 2–3(4–6)-celled, septicidal, mostly samaroid: wings dorsal, usually surrounding the cell. *Seeds* crustaceous, exarillate.—Erect shrubs, *usually viscose;* leaves *mostly unifoliolate;* flowers *racemose or corymbose.*

29. **D. viscosa,** *L.* *Leaves obovate-lanceolate* or oblanceolate; capsule winged, roundish, longer than the pedicel: *wings* surrounding the cell, *of equal breadth* nearly to the base, contiguous at the top: *terminal sinus closed.—Sl. t.* 162. *f.* 3.—D. viscosa, *Mus. Bks.* D. Candolleana, *Bl.;* arabica, *Hochst.*—Leaves 18‴–6‴ broad; capsule 10‴–12‴ diam.—Hab. Jamaica!, *Al., March,* on the arid seashore; Antigua!, *Nichols.;* Barbadoes!, Trinidad!, *Cr.;* [New Granada!, Brazil!, East Indies!, South Arabia!, tropical New Holland!].

30. **D. Burmanniana,** *DC.* *Leaves spathulate-lanceolate,* oblong-lanceolate, or ob-

lanceolate; capsule winged, roundish, nearly as long as the pedicel: *wings* surrounding the cell, *broader above than near the base: terminal sinus narrow, but open.—As. Gr. Gen. Bor. Amer. t.* 182.—D. viscosa, *Cav., As. Gr.* D. jamaicensis, *DC. sec. Mus. Bks.* (*exclus. syn. Sw.*). D. Thunbergiana, *Eckl.!;* brasiliensis, *Schlecht.!;* pallida, *Miq.!;* Dombeyana, *Bl.* —Leaves 12'''–4''' broad; capsule 6'''–8''' diam.—Hab. Jamaica!, *Macf.*, *March*, on the arid seashore; [Florida and Mexico! to Montevideo! and Peru!, Mascate! to the Cape!, East Indies!, Pacific Islands! to New Zealand!].

31. **D. angustifolia,** *Sw. Leaves linear-lanceolate;* capsule winged, roundish, as long as the pedicel: *wings* surrounding the cell, *broader above than near the base: terminal sinus open,* 3-*angular.—P. Br. Jam. t.* 18. *f.* 1.—D. bialata, *Kth.;* linearis, *E. Mey.!* Mundtiana, *Eckl.;* Schiedeana, *Schlecht.!*—Leaves 6'''–2''' broad; capsule 5'''–6''' diam.—Hab. Jamaica!, *Al.*, *March*, in the mountains; [Bermudas!, Cuba!, Mexico!, Guayaquil!, Southern China!, East Indies!, Afghanistan!, Cape!].

XLIII. STAPHYLEACEÆ.

Petals 5. *Stamens* as many, inserted into a hypogynous disc. *Ovary* 3–2-celled: ovules several (or solitary) in each cell. *Seeds* bony, albuminous: radicle inferior; cotyledons large, fleshy.—Trees *or* shrubs; leaves *compound, mostly opposite, stipulate;* leaflets *serrate.*

1. TURPINIA, *Vent.*

Sepals 5, distinct, deciduous. *Styles* 3, cohering below, or separable. *Pericarp* drupaceous: putamen 3-celled.—Leaves *impari-pinnate;* racemes *compound.*

1. **T. occidentalis,** *Don. Leaflets* 2–3-jugal, elliptical-oblong, crenate or serrate, glabrous, petiolulate, *stipellate;* primary divisions of the panicle racemiform, opposite, bearing small corymbs, of which the superior ones are usually alternate; drupe globose, 3-mucronate: points (*i. e.* rudiments of the styles) distant.—*Sl. t.* 220. *f.* 1; *Vent. Choix, t.* 31.—Staphylea, *Sw.* St. corymbosa, *DC.* T. paniculata, *Vent.:* identical with Swartz's Jamaica plant, but the putamen-cells 3–2-seeded, while in our specimens only one of the ovules ripens, and sometimes one or two of the cells are abortive.—A tree, 20'–30' high; flowers white; drupes dark blue.—Hab. Jamaica!, all coll., common; Dominica, *Imr.;* S. Vincent!, *Guild.;* [Cuba!, Mexico].

XLIV. MELIACEÆ.

(Cedreleæ.)

Petals 5–4 (–3). *Stamens* twice as many, inserted into a hypogynous disc, monadelphous: anthers usually sessile on the margin of the staminal tube, or on its inner side. *Pistil* syncarpous: style simple.—Woody plants; leaves *usually pinnate, exstipulate.*

Drastic, poisonous, and bitter substances prevail in this Order (the latter chiefly in the *Cedreleæ*); some produce aromatic resin, or have a smell of musk (*Moschoxylon, Guarea, Trichilia*). The Mahogany (*Swietenia*), and the West Indian Cedar (*Cedrela*) are excellent timber-trees.

Tribe I. *MELIEÆ.—Seeds albuminous: cotyledons foliaceous. Ovary-cells 2-ovulate.*

1. MELIA, *L.*

Calyx 5-partite. *Petals* oblong-linear, convolutive-imbricative. *Staminal tube* 20(–30)-toothed: anthers 10, sessile at its throat. *Ovary* 5-celled: ovules superimposed, inferior fertile. *Pericarp* drupaceous.—Leaves *bipinnate;* cymes *paniculate.*

1. **M. sempervirens,** *Sw.* Leaflets ovate-lanceolate or lanceolate, acuminate, deeply serrate below the point; *drupe ovoid-globose.—Bot. Reg. t.* 643.—A shrub, or low tree; leaflets variable, 5–7 (–11) in the middle divisions; petals blue-variegated; drupe yellow,

4‴–6‴ long, 4‴ broad.—Hab. Jamaica !, *Macf.*, *March*, common; S. Vincent !, *Guild.*; [Mexico ! to Guiana ! and equatorial Brazil !, East Indies !, Afghanistan !].

Tribe II. *TRICHILIEÆ.—Seeds exalbuminous: cotyledons fleshy. Ovary-cells 2–1(–4)-ovulate.*

2. ACRILIA, *Gr.*

(Trichiliæ sp., *Jacq.*)

Calyx 5–4-fid. *Petals* oblong, imbricative. *Staminal tube* 10–8-fid, separable to th base into several 3–1-androus bundles: lobes oblong, blunt: anthers terminal. *Ovary* 3-celled: cells biovulate. *Pericarp* coriaceous, indehiscent: seeds covered with a pulpy arillus: radicle superior.—Leaves *impari-pinnate:* leaflets *quite entire;* panicles *corymbiform, terminal and axillary from the uppermost axils.*

A. Jussieu's *Trichiliæ* must be broken up into several generic types, each having a peculiar structure of the staminal tube. This view is confirmed by habitual characters in the inflorescence: *Acrilia* is further distinguished by its globose pericarp, which opens with irregular ruptures, not with valves.

2. **A. Sloanei,** *Gr.*—*Sl. t.* 220. *f.* 1.—Trichilia terminalis, *Jacq.* T. hirta, *Sw. !* (*non L.*). T. Sloanei, *Macf. !*—A tree; leaflets 3–4-jugal, long-petiolulate, ovate or ovate-oblong, glabrous; panicles fastigiate, pubescent, dense, 2″–3″ long and broad; calyx spreading, 3 times exceeded by the corolla: lobes 3-angular; petals yellowish, tomentose, 3‴ long; anthers and staminal tube pubescent, included; stigma capitate; pericarp tomentose, 8‴ diam.: cells by abortion usually 1-seeded: seeds roundish, black, with a red arillus.—Hab. Jamaica !, *Macf.*, *Pd.*, *Al.*, *March*, common.

3. TRICHILIA, *L.* (*emend.*).

Calyx 5–4-fid. *Petals* ovate-oblong, imbricative. *Staminal tube* 10–8-partite: segments subulate-oblong, blunt: anthers terminal, ovoid. *Ovary* 3-celled: cells biovulate, with the ovules collateral. *Capsule* loculicidal: seeds covered with a pulpy arillus: radicle superior. —Leaves *usually impari-pinnate:* leaflets *quite entire;* panicles *racemiform, axillary, peduncled.*

3. **T. hirta,** *L.* (*non Sw.*). *Leaflets* 5-*jugal*, elliptical or oblong-lanceolate, glabrous; panicles puberulous, 2–4 times exceeded by the leaf: divisions few(–1)-flowered; *filaments cohering at the base:* anthers 10, hairy; capsule . . . .—*Sl. t.* 210. *f.* 2, 3; *Jacq. Schœnbr.* 1. *t.* 102.—T. spondioides, *Jacq.* (*partim*).—A low tree; leaflets variable, tapering at the base, the lower ones smaller; petals whitish, glabrous, 2‴ long; staminal tube hairy within, very short.—Hab. Jamaica (*Sl.*); [S. Thomas !, Guadeloupe !, New Granada].

4. **T. spondioides,** *Sw. ! Leaflets* 10–7-*jugal*, ovate-oblong, oblique at the base, glabrous; panicles puberulous, 4 times exceeded by the leaf: divisions 11–3-flowered; *staminal tube cohering to one-third*, at length divided: anthers 10, hairy; capsule tomentose, rugulose.—T. spondioides, *Jacq. Amer.*, belongs partly to this, but his figure to the preceding. T. spondioides, *A. Juss.* (*Mel. f.* 18 *a*) agrees in structure, but is represented wrongly as having glabrous anthers.—A low tree, 15′–20′ high; leaflets rounded at the base, pointed, the lower ones smaller; petals greenish-yellow, 1‴ long; stamens hairy; capsule subglobose, 5‴–6‴ diam.; seeds ovoid: arillus red.—Hab. Jamaica !, *Al.*, *March*, common; [Cuba !].

4. PHOLACILIA, *Gr.*

(Trichiliæ sp., *A. Juss.*)

Calyx 4–5-fid. *Petals* oblong, imbricative. *Staminal tube* deeply 8–10-fid: lobes subulate-oblong, bidentate at the top: anthers terminal, oblong, hairy. *Ovary* 3-celled; cells 1-ovulate. *Capsule* of *Trichilia.*—Leaves *impari-pinnate or ternate:* leaflets *quite entire, costate beneath by the primary veins, few–1-jugal;* cymes *axillary, short, shortly peduncled or subsessile.*

A. Jussieu has described two superimposed ovules in both the West Indian species: but I

find only a single ovule, which is attached below the top of the cell, and consequently hemianatropous. The analytical figure of *T. pallida*, A. Juss. (Mel. t. 18 *b*), which is not Swartz's species, agrees exactly with my analysis of *Ph. diversifolia*, presenting a single, hemianatropous ovule; and in his *T. pteleæfolia*, which is an evident congener, Jussieu himself declared the cells to be uniovulate, and figures them as such (*St. Hil. Fl. Bras. t.* 99).

5. **Ph. diversifolia,** *Gr.* Leaflets 3–1-jugal, elliptical or obovate-oblong, glabrous; cymes corymbiform, shortly peduncled, puberulous, 2–4 times exceeded by the common petiole; anthers 8; *capsule* glabrate, *globose, smooth,* rugulose.—Trichilia, *A. Juss.*—A middle-sized tree; leaflets variable in size, shape, and number, 8″–2″ long, 4″–8‴ broad: principal veins prominent beneath, 8–10 on each side, straightish, and arched near the margin; petals whitish, 2‴ long; capsule 5‴–3‴ diam.: seeds ovoid-globose.—HAB. Dominica!, *Imr.;* Trinidad!, *Pd.*, in mountain-woods; [Haiti!, Guadeloupe!].

6. **Ph. trinitensis,** *Gr.* Leaflets 3–2-jugal, elliptical or elliptical-lanceolate, puberulous or glabrate; cymes short, fasciculiform, subsessile, tomentose; anthers 8–10; *capsule densely echinate* with soft prickles, hairy, *ovate,* bluntish.—Trichilia, *A. Juss.* Portesia echinocarpa, *Vriese!*—A tree, 15′–20′ high; leaflets 4″–1″ long, 2″–8‴ broad: terminal usually larger; petals 2‴ long, tomentose; capsule 6‴ long, 4‴ broad, 2–1-celled by abortion: seed ovoid-globose, black, with a rufescent arillus.—HAB. Trinidad!, *Pd.*, *Cr.*, at S. Anns; [Guiana!].

5. PORTESIA, *Cav.* (*emend.*).

Calyx 4–5-fid. *Petals* ovate, imbricative. *Staminal tube* entire, 16–20-toothed: anthers 8–10, sessile on the inner side of its mouth, prominent between the teeth-pairs, oblong, glabrous. *Ovary* 3-celled: cells biovulate: ovules one above the other. *Capsule* of *Trichilia.*—Fragrant trees *or* shrubs; leaves *impari-pinnate:* leaflets *few-jugal, quite entire, glabrous;* cymes *axillary, fasciculiform, sessile.*

7. **P. ovata,** *Cav.* Leaflets 3-jugal, elliptical or oblong: *petiole naked;* cymes glabrous: pedicels much longer than the flower; staminal tube glabrous within: anthers 8(–9); *ovary glabrous;* capsule globose, smooth, 3(–2)-celled.—*Cav. Diss.* 7. *t.* 215; *Bot. Repos. t.* 637.—Trichilia pallida, *Sw.!* (*exclus. descr. flor., nec A. Juss.*). T. odorata, *Andr.* (*inde* Moschoxylum, *A. Juss.*). T. moschata β, *DC.*, *Macf.!*—A low tree, or shrub, 12′–25′ high; leaflets shining, 6″–2″ long, 2″–1″ broad; cymes many-flowered, about 6‴ long; petals 1‴ long, yellowish; capsule 4‴ diam.: arillus red.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*, *Al.*, common; [Cuba! to Haiti, Mexico!, Guatemala!, Veraguas!].

Trichilia glabra, Macf., from its description, is no *Meliacea* at all: but *T. glabra,* L., of Cuba, confounded by Swartz, is a second species of *Portesia,* distinguished by having narrowly winged petioles, and a villous ovary.

6. MOSCHOXYLUM, *A. Juss.*

Calyx 4–5-toothed. *Petals* valvar, cohering at the base (or distinct). *Staminal tube* entire, 8–10-toothed: filaments very short, inserted between the teeth: anthers terminal, subulate, glabrous. *Ovary* 3-celled: cells biovulate, with the ovules collateral. *Pericarp* .... —Fragrant trees *or* shrubs; leaves *pinnate;* leaflets *few-jugal, quite entire;* panicles *axillary.*

Swartz says, that the fruit is that of *Trichilia:* in my fruit-bearing specimens the pericarp, perhaps by monstrosity, is woody, indehiscent, and filled with balsam.

8. **M. Swartzii,** *Juss.* Leaflets 9–3, elliptical-oblong, glabrous; panicles loose, racemiform, puberulous: divisions corymbiform, shortly peduncled; *corolla* deeply 4–5-*partite,* twice as long as the calyx: segments ovate-oblong, pointed, spreading above: ovary tomentose.—Trichilia moschata, *Sw.!*, *Macf.!* T. membranacea, *Macf.!*—A low, highly fragrant, resinous tree; leaflets 4″–3″ long, 2″–1″ broad, either alternate (with the terminal one sometimes abortive), or (in the same branch) opposite, and impari-pinnate, about twice as long as the panicle; corolla yellowish-white, 1‴ long.—HAB. Jamaica!, *Macf.*, *Al.;* Trinidad!, *Pd.*, *Cr.*

7. GUAREA, *L.*

Calyx 4-toothed or 4-lobed. *Petals* oblong, imbricative. *Staminal tube* quite entire:

anthers sessile internally, near its mouth. *Ovary* 4-celled: cells 1-ovulate or 2-ovulate, with the ovules superimposed. *Pericarp* woody, at length loculicidal.—Trees *or* shrubs; leaves *abruptly pinnate: the pairs appearing successively along the petiole;* panicles *simply racemiform, axillary.*

9. **G. Swartzii,** *DC.* Leaflets elliptical or elliptical-oblong, glabrous: *principal veins* 8–10 *on each side:* vein-axils bearded beneath; calyx subentire: teeth minute, distant; *petals glabrous; ovary glabrous;* "capsule subglobose, costate."—*Sl. t.* 170. *f.* 1: leaves. —G. Vahliana, *Juss.*—A low tree; leaflets usually 8–2; petals white, 2½‴ long. —Hab. Jamaica!, *Macf., Al.;* [Guadeloupe].

10. **G. Perrottetii,** *A. Juss.* Leaflets oblong or elliptical-oblong, glabrous: *principal veins* 12–15 *on each side:* vein-axils glabrous; calyx subentire or 4-lobed; *petals and ovary tomentose;* capsule pyriform-globose, subcostate, velutinous.—G. trichilioides, *Pl. Carib.* (*non Jacq.*).—Leaflets 12–4; petals 2‴–3‴ long; capsule 8‴ long, 6‴ broad.—Hab. Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Guadeloupe!].

8. CARAPA, *Aubl.*

Sepals 4–5, distinct. *Petals* ovate-oblong, "twisted," spreading. *Staminal tube* 8–10-crenate: anthers sessile internally, alternating with the crenatures. *Ovary* 4–5-celled: cells 4-ovulate, with the ovules biseriate. *Pericarp* large, fleshy, at length 4–5-valved.—Trees; leaves *pinnate;* panicles *racemiform.*

11. **C. guianensis,** *Aubl.* *Leaflets* (4–)8–10-*jugal,* elliptical-lanceolate, glabrous, leathery: terminal usually abortive.—*Desc. Fl.* 6. *t.* 446.—C. procera, *DC.?*—A high tree; pericarp globose, 3″ diam.; seeds oily.—Hab. Trinidad!, *Pd.;* [Guiana, Senegambia].

Tribe III. *CEDRELEÆ.—Seeds flat, winged. Ovary-cells 4–multi-ovulate.*

9. SWIETENIA, *L.*

Calyx 5-fid. *Petals* twisted. *Staminal tube* entire, 10-toothed: anthers attached internally between the teeth. *Ovary* 5-celled: cells about 12-ovulate. *Pericarp* woody, dehiscent from the base: seeds albuminous, with a terminal, oblong wing.—Trees; leaves *abruptly pinnate, glabrous;* panicles *axillary, peduncled, bearing corymbiform cymes.*

12. **S. Mahagoni,** *L.* Leaflets 6–10, inequilateral, ovate or ovate-lanceolate, pointed; *capsule ovoid.*—*Bot. Misc.* 1. *t.* 16, 17; *Tuss. Fl.* 4. *t.* 23; *Desc. Fl. t.* 99, 416.—S. Senegalensis, *Desc.* (*non Desr.*).—A high tree; leaflets usually 2″ long; capsule 3″–4″ long.—Hab. Jamaica!, *Macf., Al.,* common in the plains and lower hills, up to 3000′; Bahamas, Trinidad; [Cuba!, Mexico!, Honduras].

10. CEDRELA, *L.*

Calyx 5-lobed. *Petals* imbricative, oblong: midrib on the inside furnished with a plait, which adheres to the gynophore. *Staminal tube* wholly combined with the gynophore: fertile filaments 5, long, inserted on its top. *Ovary* 5-celled: cells 8–12-ovulate. *Capsule* dehiscent from the top: seeds with a terminal wing: albumen thin.—Fetid trees; leaves *pinnate;* panicle *large, terminal.*

13. **C. odorata,** *L.* Leaves impari-pinnate: leaflets 8–5-jugal, oblong, oblique at the base, petiolulate; petals pubescent; capsule ovoid, subcostate.—*Sl. t.* 220. *f.* 2; *Br. Jam. t.* 10. *f.* 1; *Desc. Fl.* 6. *t.* 411.—A high tree; leaflets variable in being broader or narrower, shortly or long petiolulate; panicle drooping, often above 1′ long: flowers pale-yellow.—Hab. Jamaica!, *Al., Wils.,* common in the plains and lower hills; Antigua!, *Nichols.;* [Cuba!, Mexico!, Yucatan!].

XLV. AURANTIACEÆ.

Sepals united. *Petals* sessile. *Stamens* inserted upon an hypogynous disc. *Pistil* syncarpous: style simple. *Pericarp* baccate. *Embryo* exalbuminous, straight.—Woody plants; leaves *compound or unifoliolate, exstipulate, with pellucid dots.*

All organs abound in oil-glands, and several volatile oils occur in *Citrus*. The berry is often eatable, and in some varieties of *Citrus* contains citric acid, or a bitter principle.

1. CITRUS, *L.*

Calyx 5(–3)-fid. *Petals* 5 (–8). *Stamens* polyadelphous. *Ovary* many-celled: ovules biseriate.—Leaves *unifoliolate, articulated with the petiole.*

1*. **C. medica,** *L.* Leaves glabrous: *petiole naked or marginate; berry umbonate, acid,* usually bright-yellow.

α. Berry ovoid-oblong, tubercled, slightly acid.—*Desc. Fl.* 5. *t.* 339.

β. *Limonum,* Riss. Berry ovoid, rugulose, acid.—*Tuss. Fl.* 3. *t.* 19; *Desc. Fl.* 5. *t.* 337.

γ. *Peretta,* Riss. Berry obovoid, with the style usually persistent, slightly acid.—*Tuss. Fl.* 3. *t.* 16.

Hab. Naturalized in Jamaica, and in the Caribbean Islands!; [East Indies].

2. **C. Aurantium,** *L.* Leaves glabrous: *petiole winged; berry* globose, *exumbonate.*

*α**. Berry large, orange-coloured, sweet: oil-glands convex.—*Tuss. Fl.* 3. *t.* 14; *Desc. Fl.* 5. *t.* 338.—C. Paradisi, *Macf.*: a form with larger berries.

*β**. *Bigaradia,* Duh. Berry large, orange-coloured, rugulose, bitter and acid: oil-glands concave.—*Tuss. Fl.* 3. *t.* 15; *Desc. Fl.* 1. *t.* 38; 5. *t.* 357.

γ. *spinosissima,* Mey.! Berry small (about 1″ diam.), smooth, bright-yellow, very acid: oil-glands concave.—*Desc. Fl.* 1. *t.* 7.—C. Lima, *Macf.*—A spiny shrub; leaves crenate.

Hab. *α* and *β*, naturalized in Jamaica, and in the Caribbean Islands; *γ*, said to be indigenous and more common: Jamaica!, *Dist.*; [Cuba!, Guadeloupe!, Mexico!, Venezuela!, Guiana!].

3*. **C. decumana,** *L.* *Leaves puberulous beneath,* slightly dotted: petiole winged; berry large, obovoid-globose, depressed at the top, bright-yellow, or green: oil-glands flat or convex.—*Tuss. Fl.* 3. *t.* 17, 18; *Desc. Fl.* 3. *t.* 220.—Young shoots puberulous; berry about 5″ diam.—Hab. Naturalized in Jamaica and in the Caribbean Islands!; [East Indies!].

Several other East Indian *Aurantiaceæ* have been introduced into the British West Indies, and are common in gardens, viz. *Triphasia trifoliata,* DC.; *Glycosmis citrifolia,* Lindl. (*G. heterophylla,* Rich. Cub.); *Murraya exotica,* L.; *Cookia punctata,* Retz; and *Citrus chinensis,* Riss. (*Desc. Fl.* 3. *t.* 219).

XLVI. GERANIACEÆ.

Sepals 5, mostly distinct. *Stamens* usually monadelphous, and biseriate. *Pistil* syncarpous: styles adnate to the prolonged axis, at length together with the 5 monospermous carpids distinct. *Embryo* exalbuminous, curved.—Herbs *or* shrubs; leaves *simple, usually palmatifid, stipulate;* nodes *tumid.*

1*. GERANIUM, *L.*

Stamens 10, monadelphous. *Styles* at length revolute.—Herbs.

1*. **G. pyrenaicum,** *L.* Perennial; leaves palmatipartite-roundish; petals purple, bearded at the base, exceeding the mucronate sepals; carpids smooth, pubescent: seeds smooth.—Hab. Naturalized in the Blue Mountains of Jamaica!, *Al.*, at Abbey-green; [introduced from Europe].

XLVII. OXALIDEÆ.

Petals 5, twisted. *Stamens* 10, usually shortly monadelphous. *Pistil* syncarpous: styles 5, distinct. *Embryo* straight: cotyledons foliaceous; albumen thin.—Leaves *compound.*

Acid oxalates are general in the herbage.

1. OXALIS, *L.*

Sepals 5, distinct, or united at the base. *Capsule* 5-lobed, loculicidal. *Seeds* covered with a fleshy testa, which separates from the inner integument.—Leaves *usually trifoliolate.*

* *Leaves rosulate; cyme umbelliform.*

1. **O. Martiana,** *Zucc.* Tubers aggregate; *leaves basilar,* stipulate: leaflets 3, sessile, broadly obcordate, with a narrow sinus, hairy, glandular beneath; cymes umbelliform, cernuous; sepals biglandular at the top, blunt, distinct; petals violet; stamens hairy, the longer exceeding the hairy styles.—*Bot. Mag. t.* 3938.—O. bipunctata, *Grah., Macf.*—Petioles often 1′ long; petals 8‴–10‴ long.—HAB. Jamaica!, *Al.*, in the mountains, S. Anns; S. Vincent!, *Guild.*; [Mexico!, Brazil!, Buenos Ayres!].

** *Stem leafy, herbaceous; leaflets* 3, *sessile, obcordate.*

2. **O. corniculata,** *L.* Annual; *stem creeping at the base,* diffuse; *stipules petiolar;* leaflets sessile, obcordate; cymes few–1-flowered: pedicels at length recurved; petals yellow; longer stamens nearly as long as the styles; capsule pubescent, many-seeded.—*Jacq. Oxal. t.* 4.—O. stricta, *Sw. Observ.* (*non L.*).—West Indian forms:

β. microphylla, Poir. Stem low, emitting rooting runners; leaflets small, ciliate: sinus spreading; peduncles 1–2-flowered.—O. corniculata, *β,* repens, *Zucc.*—The most common form: identical specimens occur in New Zealand! and Ascension!

γ. pubescens. Stem long, ascending; leaflets pubescent: sinus narrow; peduncles 2-flowered, pubescent.—O. jamaicensis, *Macf.!*—The same form occurs in southern Spain!: another variety (*O. villosa,* MB.), more common in southern Europe, is much smaller, and combines *β* and *γ*, having the leaves of the former, the pubescence of the latter, and the growth of *α*.

HAB. Jamaica!, *Al.* (*β*); S. Kitts!, Dominica!, *Imr.* (*γ*); Trinidad!, *Cr.* (*γ*); [Mexico! to Chili!, Sandwich Islands! to New Zealand!, China! to Mauritius!, Levant! and Mediterranean region! to the Cape!; introduced in Middle Europe as far north as 56° L.B.].

*** *Stem leafy; leaflets* 3: *terminal distant.*

3. **O. Barrelieri,** *Jacq.* Annual, *herbaceous,* or suffrutescent, *pubescent;* leaves stipulate: leaflets ovate or ovate-oblong, blunt or pointed; peduncles bifid: cymes corymbiform; sepals distinct; *petals pale-purple,* and yellow-variegated at the base; longer stamens as long as the styles; capsule ovate-oblong: seeds 2–3 in each cell, transversely rugose.—*Jacq. Oxal. t.* 3.—Stem about 1′ high; leaflets variable, pubescent or glabrous, glaucous beneath, 8‴–12‴ long.—HAB. Trinidad!, *Lockh., Cr.*; [Guadeloupe!, Panama!, Venezuela!, Brazil!, Galapagos!].

4. **O. sepium,** *St. Hil.* Annual, *herbaceous,* or suffrutescent, *glabrous;* leaves stipulate, glabrate: leaflets oval or oval-roundish, rounded or emarginate at the top, membranaceous, glaucous beneath; peduncles bifid: cymes corymbiform; sepals distinct; *petals yellow;* longer stamens exceeding the styles; capsule ovate-oblong: seeds 2–3 in each cell, transversely rugose.—*Desc. Fl.* 1. *t.* 32.—O. hedysaroides, *Zucc.* (*non Kth.*), *ex synon.* O. Plumieri, *Sieb.!*—Stem more slender than in the preceding, which is nearly allied.—HAB. Dominica, *Imr.*; S. Vincent!, *Guild.*; [Guadeloupe!, Martinique!, Panama!, Ecuador!, Brazil!].

5. **O. frutescens,** *L.* *Shrubby; leaves* stipulate, *pubescent:* leaflets oval, rounded or emarginate at the top; cymes umbelliform, few-flowered, not exceeding the leaves; sepals distinct; *petals yellow;* longer stamens exceeding the styles; capsule oval-oblong: seeds 2–3 in each cell, tubercled.—*Bot. Reg. t.* 810.—O. Plumieri, *Jacq.*—A low, tortuous shrub: the herbaceous extremities leafy.—HAB. Dominica!, *Imr.*; S. Vincent!; [Martinique].

Averrhoa Bilimbi, L. (Desc. Fl. 5. t. 333), and *A. Carambola,* L. (ib. t. 335), have been introduced from the East Indies, and are cultivated in Jamaica and in the Caribbean Islands.

LXVIII. ZYGOPHYLLEÆ.

Sepals distinct. *Petals* mostly imbricative. *Stamens* 2(–1)-seriate, distinct. *Pistil* syncarpous: styles combined. *Embryo* straight, with the cotyledons plane: albumen corneous or none.—Leaves *stipulate, usually compound and opposite, devoid of pellucid* dots.

The celebrated alterative gum-resin, Guajacum, is obtained from the wood of both the West Indian species of the genus so called; this wood, named *Lignum Vitæ,* is very hard and heavy, its specific gravity being 1·3.

1. TRIBULUS, *L.*

Sepals 5 (–6). *Stamens* 10 (–5). *Pericarp* 5–10(–12)-coccous: carpids indehiscent, tubercled or spinose. *Embryo* exalbuminous.—Herbs; leaves *abruptly pinnate, opposite.*

Sect. 1. Eutribulus.—*Calyx deciduous. Carpids* 5, *divided internally by transverse dissepiments into* 1-*seeded compartments.*

1. **T. cistoides,** *L.* Perennial; leaflets 8(–3)-jugal, silky beneath, shortly oblong; peduncles as long as the leaf, 1-flowered; *sepals* lanceolate, acuminate, *half as long as the petals;* stamens 10; carpids 5–3-seeded, leaving by their separation no central axis, tubercled, and 2–1-spinose: spines divergent.—*As. Gr. Gen.* 2. *t.* 145; *Desc. Fl.* 4. *t.* 250. —Petals yellow, $8'''$–$10'''$ long, imbricative.—Hab. Jamaica!, *Dist.*, common in the southern salt-pastures; [tropical seashores of all continents, Florida, Texas, Cuba!, and Mexico to Venezuela!, Cape Verde Islands!, Mozambique!, East Indies!, Sandwich Islands!, Galapagos!].

Sect. 2. Kallstrœmia.—*Calyx persistent. Carpids* 10 (–12), *separating from the central axis,* 1-*seeded.*

2. **T. maximus,** *L.* Annual, suffrutescent, prostrate; leaflets 3–4(–2)-jugal, hairy beneath, obliquely oblong or oval: stipules lanceolate-linear; peduncles nearly as long as the leaf; *sepals* subulate, *a little exceeded by the petals;* stamens 10; carpids keeled, tubercled, unarmed.—*Sl. t.* 132. *f.* 1; *Br. Jam. t.* 21. *f.* 3; *As. Gr. Gen.* 2. *t.* 146.— T. decolor, *Macf.*! Kallstrœmia, *Torr. et Gr.*—Petals pale-tawny, $2'''$–$3'''$ long; twisted.— Hab. Jamaica!, *Dist., Al.*, common in pastures; S. Vincent!, *Guild.*; [Texas!, California!, Mexico!, Panama!].

2. GUAJACUM, *L.*

Sepals 5. *Stamens* 10: anthers recurved. *Ovary* stipitate: cells 8–10-ovulate. *Pericarp* somewhat fleshy, 5–2-celled, tardily septicidal: cells 1-seeded by abortion, compressed and keeled. *Embryo* included within a rimose albumen.—Trees *or* shrubs; leaves *abruptly pinnate, opposite, coriaceous, glabrous;* peduncles 1–3, *terminal,* 1-*flowered;* petals *blue.*

3. **G. officinale,** *L. Leaflets* 2-*jugal,* obovate or oval, blunt; sepals oval, pubescent, 3 times exceeded by the petals; fruit obovate-roundish, retuse.—*Sl. t.* 222. *f.* 3–6; *Tuss. Fl.* 4. *t.* 35; *Desc. Fl.* 7. *t.* 463.—A middle-sized or low tree; leaflets $12'''$–$6'''$ long, evergreen; petals spathulate, $6'''$ long.—Hab. Jamaica!, *Macf., Pd., Al., March,* in the arid southern plains, to Trinidad!, *Lockh.*; [Cuba to Venezuela!].

4. **G. sanctum,** *L. Leaflets* 5–4-*jugal,* obliquely lanceolate-elliptical, or obovate, pointed or blunt; sepals oval, glabrous, half as long as the petals; fruit obovate-roundish, mucronate.—*Commel. Ht. t.* 88; *As. Gr. Gen.* 2. *t.* 148.—G. verticale, *Rich. Cub.*— Leaflets $12'''$–$8'''$ long; petals obovate, $6'''$ long.—Hab. Bahamas!, *Swains.*; [Key-West, Cuba, Haiti!, Portorico].

XLIX. RUTACEÆ.

(Diosmeæ, Zanthoxyleæ, Simarubeæ.)

Stamens usually 2–1-seriate. *Pistil* syncarpous, with the ovaries usually distinct above: ovules 2 (1–several) in each cell. *Pericarp* capsular and mostly divided into distinct, follicular

cocci, with the endocarp usually separated and 2-valved, or fleshy.—Leaves (*in the West Indian genera compound, or unifoliolate,*) *usually exstipulate.*

Essential oils are general in the first and second tribe, and in some cases the aromatic principle is combined with a bitter substance (*Esenbeckia*). In the tribe of *Simarubeæ*, a bitter principle is the universal character, and the bark of several species (*Quassia, Simaruba*) is known as the drug Quassia, containing Quassiin. Some *Rutaceæ* produce a valuable timber: *Esenbeckia* affords excellent walking-sticks (*Gasparilla colorado*).

TRIBE I. *PILOCARPEÆ.—Stamens hypogynous, or inserted into an hypogynous disc. Endocarp bivalved. Albumen none.*—Leaves usually dotted with pellucid points.

1. PILOCARPUS, *V.*

Calyx 5-lobed. *Petals* valvate above. *Stamens* 5, inserted below a large disc. *Ovary* 5-lobed, enclosed within the disc: styles short, distinct at the immersed base, combined above. *Folliculi* distinct, monosperm. *Testa* membranaceous.—Shrubs; leaves *dotted,* 1(–3)*-foliolate;* flowers *in terminal racemes.*

1. **P. racemosus,** *V.* Glabrous; leaves elliptical, rounded at the top; raceme lax. —*Plum. Ed. Burm. t.* 127; *Vahl, Eclog. t.* 10: *anal.*—A shrub, specimens of which I have only seen in the British Museum: habit of *Lunania.*—HAB. Montserrat!, in the mountains, *V.*

2. ESENBECKIA, *Kth.*

Sepals 5, distinct. *Petals* imbricative. *Stamens* 5, inserted below or upon a cupuliform or dilated disc. *Ovary* slightly 5-lobed: style simple, with a capitate stigma. *Capsule* muricate, loculicidal, and at length septicidal: pericarp separated from the cartilaginous, bipartite, 1-seeded endocarp. *Testa* chartaceous.—Trees *or* shrubs; leaves *dotted, usually alternate, digitate or unifoliolate: leaflets quite entire;* flowers *in terminal or axillary racemes: special peduncles bearing* 3–1*-flowered cymules;* petals *dotted.*

Sect. 1. EUESENBECKIA.—*Stamens inserted below the cupuliform, hypogynous disc.*

2. **E. pentaphylla,** *Gr.* *Leaves digitate:* leaflets 5–3, elliptical-oblong, blunt, petiolulate; racemes compound, pubescent: cymules 3–2-flowered; "capsule turbinate, muricate."—Galipea, *Macf.!*—A middle-sized tree; leaflets 5″–3″ long, the terminal ones often larger: veins rather prominent; racemes as long as the leaves; sepals roundish, ciliate; petals yellowish, obovate, spreading, 1½‴ long; ovary encircled by the disc, papillose.—HAB. Jamaica!, *Macf., Pd., Al., March,* in the distr. of Port-Royal.

3. **E. attenuata,** *Gr.* (*n. sp.*). *Leaves unifoliolate,* oblong-lanceolate, blunt, gradually tapering towards the base; racemes simple, puberulous: special peduncles bibracteolate, 1 (–3)-flowered; *capsule globose, echinate:* endocarp with a notch.—A tree; leaves 6″–[illegible] long, 1½″–1″ broad; racemes 2–3 times shorter than the leaves, with appressed, deciduous hairs: special peduncles 2‴–3‴ long, bearing the bracteoles at the middle; sepals roundish, ciliate; petals ovate, with a bluntish point, 2‴ long, pubescent externally; disc obsoletely lobed, as high as the papillose ovary; capsule 10‴ diam.: spines subulate, compressed, 1½‴–1‴ long: endocarp pale, cartilaginous, constricted below by a semilunar notch, which is formed by its funicular part remaining membranaceous, and becoming brown and separated by rupture (A. Jussieu's endocarpial membrane); seeds 5‴ long, ovate: testa brown, thin, rigid.—HAB. Trinidad!, *Pd., Cr.,* in mountain-woods.

Sect. 2. POLEMBRYUM (Esenbeckia, *Mart.*).—*Stamens inserted upon the inside of the spreading, hypogynous disc.*

4. **E. castanocarpa,** *Gr.* *Leaves unifoliolate,* elliptical-oblong, with a bluntish point, shortly tapering at the base; racemes filiform, glabrescent, cernuous, simple or divided at the base: cymules 3–1-flowered, inferior distant; *capsule globose, tubercled:* endocarp without a notch.—*Juss. in Mém. Mus.* 12. *t.* 28. *f.* 49: *fruit.*—Polembryum, *A. Juss.* Es. pilocarpoides, *Schtt. sec. Hb. Hook.* (*non Kth.:* Kunth's figure, though agreeing in habit,

presents the structure of Sect. 1).—A low tree; leaves 6″–3″ long, 2½″–1″ broad, usually with black dots beneath; racemes about half the length of the leaves, with appressed, very short down: inferior cymules longer-peduncled; sepals ovate-roundish, scarcely ciliolate; petals glabrous, ovate-roundish, 1½‴ long; disc forming a broad, flat ring round the ovary, exceeded by the short style; filaments short, inserted near the margin of the disc, between its slight lobes; capsule 8‴ diam.: tubercles bluntly conical, the larger ones scarcely 1‴ long: endocarp pale, cartilaginous, bipartite, with the divisions oblong, without a notch at the base; seeds 5‴ long, ovate, pointed: testa brown, chartaceous, with a round, shining, black spot at the hilum; embryo straight: cotyledons fleshy, plano-convex, with a short radicle.—Hab. Trinidad!, *Sieb.* (*Hb. Trin.* 34), *Pd.*, *Cr.*, in the mountains: a form with the leaves more coriaceous, but apparently not otherwise distinct, was sent by Pd. from the island of Gasparis (near the entrance of the Paria Bay).

3. PELTOSTIGMA, *Walp.*

(Pachystigma, *Hook.*, *non Hochst.*)

Sepals 4(–3), two smaller, exterior. *Petals* 4, imbricative. *Stamens* indefinite, inserted upon a low carpophorous disc. *Ovary* entire, 8-celled, 8-sulcate: stigma large, depressed, 8-lobed, subsessile. *Capsule* 8-coccous: cells 2(–1)-seeded, dehiscent on the inner side, and separated from the bivalved endosperm. *Seed* suspended from a fleshy, clavated funiculus: testa coriaceous.—A low tree; leaves *ternate, alternate, dotted;* flowers *large, in loose, few-flowered, fastigiate cymes.*

5. **P. pteleoides,** *Walp.* *Hook. Ic. t.* 698.—Pachystigma, *Hook.*—A small, fragrant, glabrous tree; leaflets elliptical, pointed at both ends, 4″–2″ long, quite entire, or with a few serratures above: the terminal often larger, and narrowly tapering at the base; cymes 3–2-chotomous, axillary or lateral, nearly as long as the leaf, sometimes reduced to a single flower; sepals deciduous, roundish, interior 1(–2) coloured, twice as long as the exterior, and equalling the corolla; petals obovate, 6‴ long, white, puberulous externally; stamens about 30; ovary velutinous; capsule globose, 10‴–12‴ diam., divided to the base, glabrous: endocarp pale, cartilaginous, without a notch: testa brown: embryo unknown. —Hab. Jamaica!, *Pd.*, in the Santa Cruz mountains, S. Elizabeth.

Tribe II. *ZANTHOXYLEÆ.—Stamens hypogynous: ovary abortive in the male flower. Seeds albuminous: testa crustaceous.*—Flowers diœcious; leaves usually dotted with pellucid points.

4. TOBINIA, *Desv.*

(Fagara, *Sw.*, *non Jacq.;* Zanthoxyli *sect.* Tobinia, *Pl. Carib.*)

Calyx 3-lobed, or 3-partite. *Petals* 3. *Stamens* as many. *Ovary* 3(–1)-celled, with the carpels distinct above, cohering at the base: stigma common, capitate, subsessile. *Folliculi* 3–1, distinct to the base, sessile: endocarps separated, bivalved.—Woody plants, *often armed with long, spreading prickles;* leaves *without pellucid dots, coriaceous, shining, impari-pinnate, with the terminal leaflet sometimes abortive: petiole not winged;* cymes *many-flowered;* calyx *minute, much exceeded by the small, oval, whitish, imbricative petals;* anthers *purple, cordate, exserted.*

This West Indian genus, hitherto reduced to *Zanthoxylum*, approaches *Diosmeæ* by the endocarp early loosened, and completely bivalved: its habit is peculiar, and the glabrous leaves are devoid of the pellucid dots which are so general among *Zanthoxyleæ*. The species are nearly allied, and neither the existence of prickles, which occur on the axis, the leaflets, the petioles, and chiefly on the younger parts, nor the number of leaflets or carpids, afford specific characters.

* *Cymes axillary, contracted; leaflets with black dots.*

6. **T. ternata,** *Desv.* "*Leaflets* 3, obovate, *quite entire, dotted with black points beneath,* petiolulate; cymes contracted, axillary; calyx 3-partite; carpids globose, 3″–1″." —Zanthoxylum, *Sw.*—A low shrub, usually unarmed.—Hab. Dominica (*Sw.*); [Cuba], on the seashore.

T. punctata, Gr., of S. Croix and Guadeloupe !, is nearly allied, but has the leaflets crenulate, lanceolate-oblong, 6–1-jugal.

7. **T. punctata,** *Gr.* *Leaflets* 7–1-jugal, lanceolate-oblong, or elliptical, *dotted with black points beneath, crenulate* with minute crenatures: lateral petiolules short; cymes contracted, axillary; calyx 3-partite; carpids subglobose, 3–1.—Zanthoxylum, *West.*—A shrub, often with solitary prickles on the back of the midrib, and on the petioles; carpids minute, ½‴ diam.—HAB. Antigua !, *Wullschl.*; [S. Croix, Guadeloupe !].

** *Cymes terminal; leaves without black dots.*

8. **T. spinosa,** *Desv.* Very prickly; *leaflets small,* 10–6-jugal, lanceolate-oblong or oval, dotless, *crenulate* with minute crenatures, *subsessile*; "cymes terminal: calyx 3-lobed;" carpids . . . .—Zanthoxylum, *Sw.*—A shrub or tree; leaves prickly, when the plant is young, on the back of the midribs, and especially on the petiole: leaflets 12‴–4‴ long. —HAB. Jamaica (*Sw.*); Dominica !, *Imr.*, on arid hills.

9. **T. acuminata,** *Desv.* *Leaflets* 5–3-jugal, ovate-oblong, dotless, *pointed, crenulate* with minute crenatures: petiolules very short; cymes compact in a terminal, corymbiform, interrupted panicle; calyx 3-lobed; "carpids globose, solitary by abortion."—Zanthoxylum, *Sw.* (*non Macf.*). Z. aculeatum, *Macf.*—A shrub; leaflets 2″ long, 1″ broad: terminal sometimes abortive: petiolules ½‴ long.—HAB. Jamaica !, *Pd.*, in mountain-woods, S. Anns, Port-Royal.

10. **T. emarginata,** *Desv.* *Leaflets* 4–2-jugal, oval or oblong, dotless, shining above, *blunt* or emarginate, *quite entire*: petiolules short; cymes terminal (and axillary), corymbiform, compound; calyx 3-lobed; carpids obliquely globose, 3(–1).—*Sl. t.* 168. *f.* 4; *Br. Jam. t.* 20. *f.* 2; *Rich. Cub. t.* 34.—Zanthoxylum, *Sw.* Z. sapindoides, *DC.* Z. coriaceum, *Rich.* Sapindus spinosus, *L.*—A shrub or tree; leaflets variable, 3″–2″ long, 1½″–1″ broad: terminal usually abortive: veins densely reticulated, rather prominent above: petiolules 2‴ long; cymes lax or compact; carpids 2‴–3‴ diam.—HAB. Jamaica !, *Wils.*, *March*, on dry hills; [Cuba !].

11. **T. coriacea,** *Desv.* *Leaflets* 2–3(–4)-jugal, elliptical or elliptical-oblong, dotless, *pointleted* with a bluntish point, quite entire, or obsoletely crenulate: *petiolules long*; cymes terminal (and axillary), compound, corymbiform: pedicels as long as the flower; calyx 3-lobed; carpids obliquely globose, mucronate, solitary by abortion.—Zanthoxylum acuminatum, *Macf.* ! (*non Sw.*).—A shrubby tree; leaflets 3″ long, 2″–1″ broad, terminal abortive: petiolules 6‴–2‴ long, dilated towards the lamina; carpids 2‴ diam., aromatic.—HAB. Jamaica !, *Macf.*, *March*, by roadsides.

5. FAGARA, *Jacq.*

(Zanthoxyli *sect.* Fagara, *Pl. Carib.*)

Calyx 4(–5)-lobed. *Petals* 4 (–5). *Stamens* as many. *Carpels* 2(–3), distinct. *Folliculi* 2 (3–1): endocarp at length separated, bivalved.—Prickly shrubs: *prickles stipular*; leaves *impari-pinnate*: *leaflets sessile, terminal rarely abortive*: *petiole winged*; cymes *usually contracted, axillary*; petals *and* exserted anthers *yellowish*.

12. **F. microphylla,** *Desf.* *Stipular prickles straight*; *leaflets* 3–1-jugal, oval or spathulate, emarginate or blunt, *quite entire*, glabrous, leathery, bitubercled at the base beneath, *devoid of pellucid dots*: petiole unarmed, with the joints lanceolate; flowers in a short glomerule; *carpids* 2–1, globose, mucronate, *subsessile.*—*Br. Jam. t.* 5. *f.* 1; *Jacq. Fragm. t.* 6. *f.* 2.—F. pterota, *L.*, *partim* (*exclus. syn. Sl.*). Zanthoxylum spinifex, *Jacq.*—A low, tortuous, leafy shrub; prickles 1‴ long; leaflets 6‴–3‴ long; carpids 1¼‴ diam.—HAB. Jamaica (*P. Br.*), S. Kitts, Antigua !, *Nichols.*; Dominica !, *Imr.*; Barbadoes !, on the arid seashore; [Venezuela].

13. **F. tragodes,** *Jacq.* "*Stipular prickles recurved*; *leaflets* 6–4-jugal, spathulate, blunt, *quite entire*, glabrous, leathery: petiole with solitary prickles at the base of the leaflet-pairs: joints spathulate; flowers glomerate."—*Jacq. Amer. Pict. t.* 19.—"A shrub, 5′ high; stipular prickles 2‴ long; leaflets of the preceding."—HAB. Nevis (*Hamilt.*); [Haiti].

14. **F. lentiscifolia,** *W.* *Stipular prickles recurved*; *leaflets* 6–4-jugal, oval or ob-

ovate, emarginate or blunt, *crenate*, glabrous, bitubercled at the base beneath, *dotted* with pellucid points chiefly below the crenatures: petiole unarmed, with the joints lanceolate; flowers in an oblong glomerule; *carpids* 2–1, globose, mucronate, *as long as the carpophore.*—*Sl. t.* 162. *f.* 1; *Lam. Ill. t.* 84; *Desc. Fl.* 7. *t.* 455.—F. pterota, *L.* (*quoad syn. Sl.*). Zanthoxylum pterota, *Kth.*, *Macf.*, *As. Gr.*—A high shrub; leaflets 12‴–5‴ long. —HAB. Jamaica!, *Wright*, in thickets; Bahamas!, *Swains.*; S. Kitts, Nevis; Trinidad!, *Pd.*, *Cr.*; [Florida!, Texas!; Cuba].

6. ZANTHOXYLUM, *L.*

(Zanthoxyli *sect.* Euxanthoxylum, *Pl. Carib.*; *sect.* Ochroxylum *et* Langsdorffia, *Juss.*)

Petals 5. *Stamens* as many. *Ovaries* 5–1, distinct or cohering in the axis: stigmas connivent or cohering. *Folliculi* 5–1: endocarp adhering to the valves, or separated on the margin.—Trees; leaves *impari-pinnate, rarely unifoliolate, dotted with pellucid points*; flowers *in a dense panicle.*

Sect. 1. KAMPMANNIA.—*Stigma peltate by cohesion, subsessile.*—Leaves impari-pinnate.

15. **Z. clava-Herculis**, *L.* (*ex syn. P. Br.*). *Leaflets* 10–5-jugal, lanceolate-oblong, *quite entire* or minutely serrate, *subsessile*, glabrous above, puberulous along the nerves or glabrate beneath: pellucid dots scattered: petiole puberulous, prickly; *panicles* terminal and axillary, *pubescent*; ovaries 5, cohering in the axis; *folliculi* 5–2, erect, *sessile.*—*Sl. t.* 172; *Lam. Ill. t.* 811; *Desc. Fl.* 2. *t.* 98.—Z. caribæum, *Lam.* Z. lanceolatum, *Poir.* —A tree, 20′–50′ high; leaflets pointed, variable, the inferior sometimes elliptical: prickles short, straight; panicle 2″–4″ diam.; folliculi 3‴ long, inserted into a conical, central axis: endocarp loosened on the margin.—HAB. Jamaica!, all coll., common; S. Lucia!, *Anders.*; [Cuba!, Guadeloupe!].

16. **Z. microcarpum**, *Gr.* (*n. sp.*). Leaflets 9–6-jugal, lanceolate, *crenate-serrate, subsessile*, glabrous above, puberulous chiefly on the midrib beneath: pellucid dots numerous: petiole puberulous, unarmed; *panicles* terminal, *pubescent*; *folliculi solitary* by abortion, globose, *sessile.*—Habit of the preceding, to which it is nearly allied; leaflets 2″ long, 8‴ broad, pointed; panicle spreading, 4″–6″ diam., without warts; folliculi tardily dehiscent, 1½‴ diam., inserted into the minute torus, usually together with a second abortive one.—HAB. Dominica!, *Imr.*

17. **Z. aromaticum,** *W.* *Leaflets* 6–2-jugal, elliptical or oblong, *crenate*, with the crenatures broadly truncate, *petiolulate*, glabrous: pellucid dots numerous: petiole glabrous; *panicles* terminal and axillary, *glabrous, verrucose*; ovaries 5, cohering in the axis; *folliculi* 2 (–5), cernuous, *at length shorter than the distinct carpophores.*—*Jacq. Eclog. t.* 70.— Z. elephantiasis, *Macf.*—A tree, about 20′ high: prickles short, subulate, or none; leaflets glandular beneath: one series of glands between the crenatures; panicle spreading, 3″–5″ diam.; carpophores divergent, thickened at the top, 3‴–4‴ long; endocarp adhering to the valves.—HAB. Jamaica!, *Al.*, *March*, in mountain-woods; [Haiti, Guadeloupe!].

Z. Sumach, Gr., Pl. Carib. (*non* Macf.), is an allied Guadeloupe species, distinguished by shorter carpophores, and the leaflets subentire.

Sect. 2. OCHROXYLUM.—*Style in the male flower distinct*: ♀ *unknown.*—Leaves unifoliolate.

18. **Z.? ochroxylum,** *DC.* *Leaves elliptical*, quite entire, glabrous: pellucid dots numerous: petiole articulated below the top; panicles terminal, spreading, nearly as long as the leaves, slightly puberulous; rudimentary ovaries in ♂ 3, cohering, stalked by a gynophore, shorter than the single style.—Ochroxylum punctatum, *Schreb.*—Branches leafy; leaves 3″–1½″ long, bluntish, veiny: petiole 10‴–4‴ long; calyx 5-fid, minute; petals scarcely 1‴ long, equalling the 5 filaments and the style.—HAB. Dominica!, *Imr.*; [S. Jean].

7. BRUNELLIA, *R. P.*

Calyx 5–4(–7)-partite, valvate. *Petals* 0. *Stamens* 10–8 (–14), inserted into a disc. *Ovaries* 5–4 (–3), distinct: styles as many, distinct. *Folliculi* with the endocarp at length se-

parated, bivalved.—Trees; leaves *opposite or whorled, impari-pinnate or unifoliolate, devoid of pellucid dots;* flowers *in corymbiform, axillary, and terminal panicles;* calyx *coloured.*

19. **B. comocladifolia,** *Kth.* Branchlets and petioles rusty-tomentose: leaves pinnate: *leaflets* 5–11-*jugal*, lanceolate-oblong, *serrulate*, penninerved, glabrous above, tomentose along the midrib beneath: *serratures mucronulate;* corymbs subsessile, much exceeded by the leaves; calyx yellow, exceeded by the stamens.—*Humb. Pl. Equin. t.* 59.—Zanthoxylum Sumach, *Macf.! (non Gr.)*.—A tree, about 20′ high; leaflets 3″ long, 1″ broad, shortly petiolulate; calyx tomentose, 5-partite, 1‴ long; stamens 10.—Hab. Jamaica!, *Macf.*, common in the higher mountains; [Mexico!, Venezuela!, New Granada!, Peru].

Tribe III. *SIMARUBEÆ.—Stamens usually proceeding from an hypogynous scale. Pericarp fleshy, rarely capsular. Testa membranaceous.*—Leaves without pellucid dots.

8. QUASSIA, *L.*

Calyx 5-partite. *Petals* contorted, erect. *Stamens* 10, exserted, proceeding from a basilar scale. *Ovaries* 5, distinct, uniovulate: style common, simple. *Carpels* drupaceous. *Embryo* exalbuminous: cotyledons semiovoid.—A low glabrous tree; leaves *impari-pinnate:* petiole *winged;* flowers *large, crimson, in terminal racemes.*

20. **Q. amara,** *L.f.—Desc. Fl.* 1. *t.* 5.—Leaflets 5, elliptical-oblong, pointed, quite entire, tapering towards the base, subsessile at the petiolar strictures; calyx 1‴, petals 16‴ long: drupes biangular-ovoid, 4‴–6‴ long, black, with a pale spot at the base: endocarp crustaceous.—Hab. Trinidad!: *Cr.*, introduced into Jamaica!, St. Vincent!; [Panama!, Venezuela!, Guiana! to Maranhao!].

9. SIMABA, *Aubl.*

Calyx 4–5-partite. *Stamens* 8–10, included, proceeding from a long, emarginate scale. *Ovaries* 4–5, distinct, uniovulate, inserted upon a gynophore: style common. *Carpids* subdrupaceous. *Embryo* exalbuminous, straight.—Leaves *pinnate, or ternate, coriaceous:* leaflets *quite entire.*

21. **S. orinocensis,** *Kth.* Leaflets 7–3, distant, spathulate, emarginate or blunt, glaucous beneath, glabrous; *flowers racemose:* racemes peduncled, powdery, usually *in a terminal panicle.—Kth. N. Gen.* 6. *t.* 614.—S. guianensis, *Planch. partim.*—A tree; leaflets 3″–1½″ long, subsessile, usually opposite; flowers small, about 2‴ long: calyx and corolla deciduous; filaments as long as the oblong hairy scale; ovaries as long as the gynophore: style short, simple.—Hab. St. Vincent!, *Guild.;* [Guiana!, equatorial Brazil!].

10. SIMARUBA, *Aubl.*

Flowers diœcious. *Calyx* 5-fid. *Stamens* 10, included, proceeding from a roundish scale. *Ovaries* 5, uniovulate: style 5-fid. *Carpids* drupaceous. *Embryo* exalbuminous: cotyledons semiovoid.—Trees; leaves *abruptly pinnate:* leaflets *multijugal, alternate, petiolulate, deciduous, quite entire, coriaceous;* flowers *in few-flowered cymules:* cymules *distant, in a spreading terminal panicle.*

22. **S. amara,** *Aubl. Leaflets* oblong or lanceolate-oblong, *mucronate* with a bluntish point, *green on both sides;* panicle exceeded by the leaves; petals spreading.—*Aubl. t.* 332.—S. officinalis, *DC.*—A high tree; leaflets quite glabrous, or pubescent beneath.—Hab. Dominica!, *Imr.*, St. Vincent!, *Anders.;* [Guiana].

23. **S. glauca,** *Kth. Leaflets* spathulate-oblong, or lanceolate, *rounded at the top, pale-glaucous beneath,* glabrous; panicle nearly as long as the leaves; petals spreading.—*Desc. Fl.* 1. *t.* 14.—S. officinalis, *Macf.* S. medicinalis, *Endl.*—A tree, about 20′ high; calyx scarcely 1‴ long; petals 3‴ long, yellow, oblong, blunt, contorted; drupes biangular-ovoid, dark-purple, dry, woody, 8‴ long.—Hab. Jamaica!, *M'Nab, Macf., Al., March,* common in the mountain-woods; [Cuba!, Florida!].

11. SPATHELIA, *L.*

Flowers polygamous. *Calyx* 5-leaved, coloured. *Stamens* 5, alternating with the petals,

proceeding from an emarginate scale (which, however, is sometimes abortive). *Ovary* 3-celled: cells biovulate; style short, tripartite. "*Pericarp* dry, woody, 3(–2)-angular. *Embryo* albuminous, straight."—Trees without branches, bearing pinnate leaves and large panicles at the extremity of the stem; leaflets *multijugal, oblique at the base:* rhachis *woody;* panicle *constituted of numerous corymbiform cymes:* flowers *red.*

24. **S. simplex,** *L.* Leaflets 20–40-jugal, puberulous and glabrate beneath, oblong-lanceolate or linear-lanceolate acuminate, or falcate, crenate or quite entire: petiole subcylindrical; *panicle powdery.—Sl. t.* 171.—S. glabrescens, *Planch.!:* a form with the villous stamen-scales abortive, and the filaments consequently hypogynous, subulate, glabrous. —Stem slender, resembling a Palm, 20′–50′ high; leaves and panicles several feet long; leaflets extremely variable, opposite or alternate, sessile or petiolulate, cordate or obliquely rounded at the base, crenate below the middle or to the top, or repand and quite entire.—Hab. Jamaica!, *Dist., Pd., Al., March,* common in the lower limestone-hills.

12. CASTELA, *Turp.*

Flowers diœcious. *Calyx* 4-partite. *Stamens* 8, proceeding from a disc: anthers extrorse. *Ovaries* 4, distinct, uniovulate: style 4-partite. *Carpids* drupaceous. *Embryo* straight, included within a thin albumen: cotyledons leafy.—Low spiny shrubs; leaves *simple, small, quite entire, articulated with the branch;* flowers *clustered or solitary in the axils, yellow.*

25. **C. erecta,** *Turp.* Spines usually extra-axillary; *leaves* lanceolate, subsessile, *tapering at the base, silky-pubescent beneath;* divisions of the style revolute.—*Ann. Mus.* 7. *t.* 5 *B; Bot. Misc.* 1. *t.* 55; *As. Gr. Gen. Bor. Amer. t.* 158.—C. Nicholsonii, *Hook.!* —Leaves 4‴–6‴ long.—Hab. Antigua!, *Nichols.;* [Texas!].

13. PICRÆNA, *Lindl.*

Flowers polygamous. *Calyx* 5(–4)-fid. *Stamens* 5(–4), exserted, proceeding from a disc. *Ovaries* 3, distinct: style 3-partite. *Carpids* drupaceous: seeds solitary, ascending. *Embryo* exalbuminous, undivided.—A tree; leaves *impari-pinnate;* flowers *in corymbiform, panicled cymes.*

26. **P. excelsa,** *Lindl.—Act. Holm.* 1788, *t.* 8.—Quassia, *Sw.* Q. polygama, *Linds.* Simaruba excelsa, *DC.*—A high tree; leaflets 9–11, opposite, petiolulate, oblong or oblong-lanceolate, with a blunt point, leathery, glabrous, quite entire, 4″–2″ long; panicles axillary, pubescent, much exceeded by the leaf; calyx minute; petals 1‴ long, oblong, pale-yellowish-green; drupes globose, black, 6‴–3‴ diam.—Hab. Jamaica!, *Macf., Pd., Al.,* common in the lowlands; Antigua!, *Nichols.,* St. Vincent!, *Anders.*

14. PICRAMNIA, *Sw.*

Flowers diœcious. *Calyx* 3–5-fid. *Petals* 3–5 (–0), small, pointed. *Stamens* 3–5, opposite the petals, inserted below a disc. *Ovary* 2–3-celled: cells biovulate: stigmas 2–3, subsessile. *Pericarp* baccate: seeds solitary, pendulous. *Embryo* exalbuminous, undivided. —Shrubs *or* low trees; leaves *impari-pinnate:* leaflets *usually alternate, petiolulate;* flowers *clustered: clusters in long, slender racemes.*

27. **P. pentandra,** *Sw.* Leaflets 5–9, ovate-oblong, pointleted, glabrous; racemes puberulous, pendulous, often divided at the base, nearly as long as the leaves; *petals* 5, oblong-linear, exceeded by the stamens; *berries oblong-ovoid* or ovoid, *rounded at both ends.—Rich. Cub. t.* 36 *A.*—P. micrantha, *Tul.*—A shrub, 10′–15′ high; leaflets papery, shining, 3″–2″ long: veins reticulated, prominulous on both sides; petals 1‴ long; berries 5‴ long, 3‴ broad, reddish, at length dark-blue, or black, shining.—Hab. Jamaica (*Tul.*); Antigua!, *Nichols.;* Montserrat; [Cuba!, Guadeloupe!].

28. **P. antidesmoides,** *Gr.* (*n. sp.*). Leaflets 5–7, lanceolate-elliptical, with a bluntish point, glabrous; ♀ racemes puberulous, pendulous, at length twice as long as the leaves: *petals* 5, linear; *berries obovoid, tapering* from below the rounded top *to the base.*—Leaflets papery, 4″–2″ long, 1½″–1″ broad: veins rather prominent beneath; petals of ♀ 1‴ long, male unknown; berries shining, 6‴–8‴ long, 3‴–4‴ broad.—Hab. Trinidad!, *Cr.*

29. **P. Antidesma,** *Sw.* Leaflets 7–9, ovate-lanceolate or lanceolate-elliptical, with a bluntish point, glabrous or puberulous beneath, and glabrate; racemes puberulous, filiform, pendulous, twice or more exceeding the leaves: clusters somewhat distant; *petals* 3, linear, exceeded by the stamens; *berries ovoid,* blunt at both ends.—*Sl. t.* 208. *f.* 2.—A shrub, about 8′ high; leaflets papery, 4″–2″ long: principal veins prominulous beneath; racemes 1′–2′ long; petals whitish-green, 1‴ long; berries 4‴–5‴ long, 3‴ broad, scarlet, at length black, shining.—Hab. Jamaica !, all coll., in mountain-thickets; [Cuba !, Mexico !, Panama !, New Granada !].

15. ALVARADOA, *Liebm.*

Flowers diœcious. *Calyx* 5-partite, valvate. *Petals* 0 (–5 ?). *Stamens* 5, alternate with the calyx, inserted below the central disc: anthers 4-locular. "*Ovary* 2 (–3)-celled: cells biovulate;" styles 2 (–3), short, recurved. *Pericarp* loculicidal, samaroid-compressed (or triangular, with a contracted commissure): seeds solitary in each cell, erect, with the testa membranaceous. *Cotyledons* flat, foliaceous: radicle inferior !; albumen almost none.—Shrubs; leaves *impari-pinnate:* leaflets *approximate, multijugal, alternating, shortly petiolulate, glaucous beneath;* flowers *small,* ♂ *spinate,* ♀ *racemose.*

30. **A. jamaicensis,** *Benth.* (*MS.*). *Leaflets* 18–20-jugal, oblong, emarginate, *glabrous,* revolute on the margin; stamens twice as long as the calyx; *capsules oval-roundish, glabrous,* as long as the puberulous pedicel.—Branches leafy at the top; leaflets 10‴–6‴ long, 3‴ broad, rounded or subcordate at the base, rigid: petiolule subglobose, ½‴ diam.; calyx ½‴ long; capsule 5‴ long, 4‴ broad, rounded at both ends.—Hab. Jamaica !, *Pd., Al., March,* on calcareous rocks, Union Hill, at 2000′.

31. **A. amorphoides,** *Liebm.* *Leaflets* 12–16-jugal, oblong, emarginate, *pubescent beneath,* flat on the margin; stamens four times as long as the calyx; *capsules elliptical-lanceolate, acuminate, puberulous,* and *ciliate.*—A shrub, 6′–12′ high; leaflets 8‴–5‴ long, 4‴ broad, blunt at the base: petiolule 1‴ long; capsule 6‴ long, 2‴ broad, tapering at both ends, a little longer than the pedicel.—Hab. Bahamas !, *Swains.;* [Mexico !, Nicaragua !].

L. ERICEÆ.

Stamens bi-uniseriate, mostly distinct from the corolla, which is usually sympetalous: anthers dehiscent by pores or slits, furnished often with appendages: pollen mostly cruciate. *Pistil* compound, originally paracarpous: placentas contiguous in the middle, mostly multi-ovulate: style usually simple. *Embryo* small, cylindrical, enclosed within a large endosperm.—Woody plants (rarely herbaceous); leaves *entire, exstipulate.*

Resinous and astringent principles prevail in this Order. The berries of *Vaccinium meridionale* are eatable.

Tribe I. *CLETHREÆ.—Petals distinct or nearly so, deciduous. Stigma* 3(–2)*-fid. Capsule loculicidal.*—Buds devoid of scales.

1. CLETHRA, *L.*

Sepals and *petals* 5. *Stamens* 10, reflexed in the bud: cells diverging at the top, dehiscent by a terminal pore or introrse slit. *Capsule* 3-celled, many-seeded.—Shrubs *or* trees; flowers *racemose, white:* bracts *deciduous.*

1. **C. tinifolia,** *Sw.* Branchlets and petioles rusty-villous; *leaves* obovate-oblong or oval, quite entire, or remotely denticulate, *glabrous above, hoary-tomentose beneath:* veins 10–16 on each side; racemes long, aggregate, hoary-tomentose: *bracts* filiform, *as long as or exceeded by the* recurved *pedicel;* petals subciliate above; anthers shortly mucronate at the base: cells oblong, truncate at the large pore; style included.—*Sl. t.* 198. *f.* 2 (*exclus. fruct.*). *Br. Jam. t.* 21. *f.* 1 (*exclus. desc.*).—Tinus occidentalis, *L.* C. mexicana, *DC.*—A timber-tree, or shrub, 40′–2′ high; leaves either quite entire, or with glanduliform teeth at the end of the excurrent veins; pedicels 3‴ long.—Hab. Jamaica !, *Pd., Al.,* in woods; Trinidad !, *Cr.*; [Mexico !, Guiana, Brazil].

2. **C. bracteata,** *Gr.* (*n. sp.*). Branchlets, inflorescence, and petioles rusty-villous;

leaves elliptical-oblong, denticulate, *glabrous above, glabrate beneath:* veins 8–12 on each side; racemes compound: *bracts* subulate-filiform, *as long as the flower;* petals subciliate above; anthers inversely arrow-shaped, acuminate at the base; style included.—Leaves leathery, 6″–3″ long, pointed, blunt at the base, at first hoary-tomentose beneath, soon glabrous: teeth at the end of the branching veins, glanduliform, numerous: petiole 10‴–4‴ long; panicle lax, terminal: bracts 3‴–4‴ long, exceeding the buds: pedicels 1‴–2‴ long. —Hab. Jamaica!, *Pd.*, on the summits of the Blue Mountains.

3. **C. Alexandri,** *Gr.* (*n. sp.*). Branches and petioles rusty-woolly; *leaves* elliptical, denticulate or subentire, *glabrate above, rusty-tomentose beneath:* veins 8–10 on each side; racemes aggregate, rusty-villous: *bracts* subulate-lanceolate, nearly *as long as the flower;* petals subentire; anthers obcordate, shortly mucronate at the base: cells oblong, rounded at the top; style at length exserted.—A tortuous shrub: habit of *C. fimbriata*, Kth.; leaves thickish-rigid, 2″–1½″ long, bluntish at both ends, at first woolly on both sides: veins straightish, impressed above: teeth glanduliform, about 1‴ distant from each other, or obsolete: petiole 3‴–2‴ long; racemes spreading, 6″–4″ long: bracts 3‴ long: pedicels scarcely 1‴ long; sepals tomentose, oval-oblong, 1½‴ long, a little exceeded by the obovate petals; stamens included: anthers with a large, roundish pore; style very shortly 3-lobed; capsule tomentose: seeds oval, encircled by a broad wing.—Hab. Jamaica!, *Al.*, on the summits of the Blue Mountains.

Tribe II. *SIPHONOSTOMEÆ.—Corolla sympetalous, deciduous. Anther-cells diverging at the top, dehiscent by a terminal-introrse pore or slit. Pericarp loculicidal or baccate.*—Buds enclosed within scales; leaves alternate.

Subtribe 1. *ANDROMEDEÆ.—Capsule loculicidal, free.*

2. LYONIA, *Nutt.*

Calyx 5-fid, valvate. *Stamens* 10–8, destitute of appendages: anthers recurved, dehiscent by pores. *Capsule* 5(–4)-celled, 10(–8)-valved, the sutures at length separating from the carpids.—Pedicels *fascicled.*

4. **L. jamaicensis,** *Don. Branchlets* puberulous, *glabrate; leaves* evergreen, glabrous, lanceolate or elliptical-lanceolate, quite entire or repand, *reticulated* with veins, and at length punctate *beneath;* pedicels axillary, crowded; calyx 5-fid, short; corolla oblong; anthers 10, recurved, oblong, shortly mucronate at the base of both cells.—*Bot. Mag. t.* 4273.—Andromeda, *Sw.* A. fasciculata, *Sw.!*—A tree or shrub; leaves bluntish, ash-coloured beneath; pedicels 3‴ long, scarcely as long as the petiole; corolla white, 2‴ long; capsule-valves 10, linear.—Hab. Jamaica!, *Macf.*, on the summits of the mountains.

5. **L. octandra,** *Gr. Glabrous;* leaves evergreen, lanceolate, quite entire: *veins inconspicuous;* pedicels axillary, clustered, exceeded by the petiole; calyx 4-fid, short; corolla oblong-prismatical, contracted above; anthers 8, ovate-oblong, acuminate, rounded at the base.—Andromeda, *Sw.* Menziesia triflora, *Berter, sec. DC.*—A shrub, 12′–15′ high; leaves polished, sometimes obsoletely punctate and pale-green beneath, 2″ long, bluntish; pedicels 1‴ long; corolla 1½‴ long; capsule unknown.—Hab. Jamaica!, *Pd.*, on high mountains, Moorce's Gap.

3. BROSSÆA, *DC.* (*emend.*)

Calyx deeply 5-fid, valvate, not fleshy in fruit. *Stamens* 10: anther-cells dehiscent by an oval foramen, each 2-awned at the top. *Capsule* 5-celled, many-seeded.—Leaves *evergreen, serrulate;* pedicels *axillary, solitary, or a few of the uppermost racemose from the reduction of leaves.*

6. **B. anastomosans,** *Gr.*—*Vent. Choix, t.* 53.—Andromeda, *L.* Epigæa cordifolia, *Sw.!* Gualtheria buxifolia, *W. ex Pl. Moritz.* G. anastomosans, *Kth.*—A low, branched shrub, 1′ high, ascending with the hispid branches; leaves shortly petioled, ovate, subcordate at the base, pointed, glabrate, veiny, 8‴–12‴ long; pedicels 4‴ long, nodding; calyx

1''' long: lobes triangular; corolla crimson, ovate, contracted above, 3''' long: limb erect, ½''' long, with the lobes triangular; sexual organs included.—Hab. Trinidad (*Sieb.*), [Guadeloupe!, on the top of the mountains, Venezuela!, New Granada!].

Subtribe 2. *VACCINIEÆ.—Calyx adnate.*

4. SPHYROSPERMUM, *Pœpp., Endl.*

Calyx-limb 4–5-toothed. *Corolla* ovate-urceolate. *Stamens* 4–5, distinct: anther-cells distinct above, tapering into a narrow tube, opening with an oval foramen. *Ovary* 2–4–5-celled: cells multiovulate. *Pericarp* baccate.—Epiphytical shrubs; leaves *distichous*; pedicels *filiform, axillary, simple.*

7. **S. majus,** *Gr.* (*in Pl. Lechl.*). Branchlets and petioles puberulous; *leaves ovate,* obtusate, *blunt,* subcordate at the base, glabrous: petiole very short; *pedicels solitary, as long as the leaf;* calyx-tube pilose, globose; anthers 4, bifid to the middle.—Allied to *S. buxifolium,* Pœpp., but leaves larger, and berry (in the Peruvian specimens) 4-celled. Branches rooting on trees; leaves 1'' long, 8''' broad; pedicels cernuous, thickened at the top, nearly glabrous; calyx 1''' long, covered with long white hairs; corolla 2''' long, as long as the stamens: its limb very short, recurved, 4-partite: the tube slit at the base or separated into four very short claws; connective bearing some hairs.—Hab. Trinidad!, *Cr.*; [Peru!].

5. SOPHOCLESIA, *Kl.*

Calyx-limb spreading, 4–5-toothed or entire. *Corolla* tubulose, turgid above the base. *Stamens* 8–10, distinct: filaments alternately unequal: anther-cells distinct and tubuliform from the middle, opening with an oval or oblong foramen. *Ovary* 2–4–5-celled: cells multiovulate: style exserted. *Berry* dry.—Epiphytical shrubs: *habit of* Sphyrospermum.

8. **S. apophysata,** *Gr.* (*n. sp.*). *Glabrous;* leaves ovate or ovate-lanceolate, with a bluntish point; pedicels subsolitary, jointed and bibracteolate at the middle, twice or more exceeded by the leaf; *calyx-tube swelling at the base into an annular apophysis: limb entire.*—An evergreen shrub: branches flaccid; leaves 2''–1'' long, 18'''–8''' broad, rigid, quite entire, revolute on the margin, obsoletely quintuplinerved, polished and veinless beneath: petiole 4'''–2''' long, flat above; pedicels 4'''–8''' long: bracteoles ½''' long, ovate, contiguous at the base; calyx 2''' long and broad: tube shortly campanulate, shorter than the spreading limb: apophysis convex on the margin and concave on the under side; corolla 8''' long, 1''' diam. above, 2''' above the base: limb erect, 5-partite: segments linear, blunt, six times shorter than the tube; stamens very unequal, the longer ones not exceeding half the corolla: anthers punctate-scabrous, 1½''' long, linear, shorter than the long and longer than the short filaments, inserted to the filament above their base; stigma simple, minute; ovary 5-celled, protruding above its adnate base.—Hab. Trinidad!, *Pd., Cr.*, in the hot region between Arima and Aripa de Abaja, Tocuche.

6. THIBAUDIA, *Kth.*

Calyx-limb 5-lobed. *Corolla* tubulose, turgid above the base. *Stamens* 10, distinct, of equal length: anther-cells distinct, tapering above into a narrow tube, opening with an elongated foramen. *Ovary* 5-celled: cells multiovulate. *Berry* dry.—Evergreen shrubs; flowers *usually in axillary racemes or corymbs.*

9. **T. latifolia,** *Gr.* (*n. sp.*). Branchlets glabrous, cylindrical; *leaves elliptical or roundish, septuplinerved,* shortly cuneate at the base, glabrous; *racemes* lax, usually aggregate, *pubescent together with the small flowers;* bracts lanceolate, small, one at the base of the pedicel and two above it.—This species does not answer to any of the sections which Klotzsch has separated as genera from *Thibaudia,* but it is allied to my Peruvian *Th. polyantha.* Crueger remarks that the corolla-tube is double, and both tubes 5-fid: this may have been a monstrosity, as it is not so in his specimens.—Leaves 9''–3'' long, 5''–2½'' broad, sharply pointleted or bluntish, quite entire, leathery, with the nerves prominulous beneath: petiole 8'''–3''' long, 2''' broad, enlarged into the cuneate leaf-base; racemes usually 2–5 in each axil, sessile, 3''–1'' long, surrounded at the base by minute, subulate bracts, wholly co-

vered with whitish, short hairs: pedicels spreading or nodding, 6‴–4‴ long: bracts 1‴ long, the superior 1‴ above the base of the pedicels; calyx-tube ovate, ½‴ long: limb of the same length, with subulate, distant lobes; corolla 2‴ long: limb spreading, with the lobes ovate, blunt, ½‴ long; filaments densely pubescent: anthers inserted above their base, connivent, included, oblong at the base, tapering and bifid from the middle, glabrous; style ½‴ exserted; pericarp ovoid, 7‴ long, 5‴ diam.: persistent calyx-limb free, erect, 2‴ long.—HAB. Trinidad!, *Cr.*, Tocuche.

7. SYMPHYSIA, *Prl.*

Calyx campanulate: limb free, subtruncate, minutely 6(–7)-toothed. *Corolla* ovoid-campanulate, 6(–7)-fid, valvate, fleshy. *Stamens* 12 (–14), distinct, of equal length: anthers ovate-oblong, awnless: cells distinct from the middle, terminated abruptly with a short, narrow tube, dehiscent at its top with a pore. *Ovary* 6-celled: cells multiovulate. *Pericarp* baccate.—Evergreen shrubs; flowers *in axillary corymbs.*

10. **S. guadelupensis,** *Kl.* Glabrous; *leaves* elliptical or elliptical-lanceolate, *pointed, tapering towards the subsessile base,* remotely and obscurely serrulate, veiny beneath.—*Hook. ic. t.* 292; *Deless. ic.* 5. *t.* 18.—Vaccinium, *Sw.* Andreusia, *DC.* Vaccinium Imrayi, *Hook.!* S. martinicensis, *Deless.*—A high shrub; leaves usually 2″–3″ long, 1″–1½″ broad; corymbs simple, peduncled, as long as the leaves; pedicels 8‴–10‴ long; flowers 4‴–5‴ long, 3‴ broad: corolla as long as the ovary; sexual organs included.—HAB. Dominica!, *Imr.*; [Guadeloupe].

8. VACCINIUM, *L.*

Calyx-limb short. *Corolla* campanulate or urceolate: limb 4–5-fid. *Stamens* 8–10, distinct, of equal length: anther-cells distinct above, tapering into a narrow tube, dehiscent at its top. *Ovary* 4–5-celled: cells multiovulate. *Pericarp* baccate.—Shrubs.

Sect. VITIS-IDÆA.—*Corolla campanulate. Anthers awnless, or shortly 2-awned on the back, contracted into long tubes. Ovary devoid of spurious dissepiments.*—Leaves evergreen.

11. **V. smilacifolium,** *Gr.* (*n. sp.*). Glabrous; *leaves ovate-roundish* or ovate, *pointleted, quite entire,* 5-*nerved,* reticulated-veiny chiefly beneath; corymbs few-flowered: pedicels long, thickened above, jointed at the ebracteolate top; calyx-teeth minute; corolla ovate, 5-toothed: limb connivent-erect; sexual organs included; anthers awnless.—Branches cylindrical, bearing a few pedicels, chiefly at their summit; leaves 3″–2″ long, 2½″–1″ broad, leathery, somewhat revolute on their margin, palmatinerved: first pair of lateral nerves including an elliptical area and united with the midrib below the cuspidate, lanceolate point: petiole thickish, 2‴ long; pedicels 8‴–10‴ long; flowers 6‴ long; calyx-limb very short, 5-denticulate-repand; corolla red, as long as the ovary: teeth triangular, one-sixth as long as the tube (the corolla however is really divided to the middle, the greater part of the lobes cohering by the inner epidermis); filaments very short, glabrous; anthers inserted immediately above their base, glabrous, oblong below, bifid to the middle, each cell tapering at the point of division into a linear tube, the terminal pore of which is minute; style usually equalling the corolla, shortly exceeding the anthers.—HAB. Dominica!, *Imr.*, Coulabion Mountains.

12. **V. meridionale,** *Sw.!* Branchlets pubescent; *leaves elliptical-lanceolate, or elliptical, obsoletely mucronulate,* obtusely cartilaginous-serrulate, *archnerved,* glabrous, or hairy on the midrib above; flowers racemose: pedicels shorter than the flower; calyx-limb 4(–5)-partite: segments triangular; corolla ovate, glabrous: teeth triangular, spreading, one-third as long as the tube; sexual organs nearly equalling the corolla; anthers with two very short awns on the back.—A high shrub, 10′–30′ high; leaves 1″–1½″, pedicels and membranaceous bracts 2‴, flowers 4‴–5‴ long; corolla reddish-white, twice as long as the ovary; filaments long, hairy: anther-cells oblong-linear, as long as their narrow tubes: awns inconspicuous; berry 4‴ diam.—HAB. Jamaica!, *Pd.*, *Macf.*, *Al.*, in the Blue and Port-Royal mountains, from their summits as low down as the forests of the coffee region.

LI. CYRILLEÆ.

Stamens of *Ericeæ*, but pollen simple, triangular. *Pistil* syncarpous: ovules solitary in each cell, pendulous.—*Habit and most characters of polypetalous* Ericeæ.

1. CYRILLA, *L.*

Calyx small, 5-partite. *Petals* 5, dry, pointed. *Stamens* 5: anthers opening with lateral slits. *Ovary* 2-celled: style with a bifid stigma. *Pericarp* dry.—Glabrous, evergreen shrubs; leaves *quite entire;* flowers *in narrow, slender racemes.*

1. **C. antillana,** *Mich.* *Leaves* lanceolate-oblong, blunt, *slightly emarginate,* leathery, minutely reticulated chiefly above; pedicels longer than the petals.—Racemes subsessile in the superior axils, 2″–4″ long, pedicels 1½‴, petals 1‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *Bancr.*, in the Port Royal mountains; Dominica!, *Imr.;* [Cuba!, Guiana!, Brazil!].

LII. CELASTRINEÆ.

Stamens opposite to the imbricated calyx, mostly uniseriate and perigynous. *Pistil* syncarpous (rarely reduced): ovary usually immersed in a disc, ovules 2–1 (–definite) in each cell, usually erect. *Seeds* mostly arillate, albuminous: embryo large.—Woody plants; leaves *simple, stipulate;* flowers *small: pedicels articulated.*

Stimulant, or acrid and bitter principles occur in this Order.

1. MAYTENUS, *Juss.*

Calyx 5-fid: tube cupuliform. *Petals* and *stamens* 5, the latter inserted under the margin of the disc. *Ovary* immersed, 2(–3)-celled: cells 2-ovulate: style with a 2(–3)-lobed stigma. *Capsule* leathery, tardily loculicidal: seeds erect, arillate, with a crustaceous testa.—Shrubs; leaves *alternate, leathery;* pedicels *jointed at the base, axillary, usually fascicled.*

1. **M. gonocladus,** *Gr.* (*n. sp.*). Glabrous: *branchlets tetragonal;* leaves lanceolate-oblong, obtusely pointleted, serrate above the middle with blunt serratures, or subentire, shining above; pedicels fascicled, as long as or exceeding the petiole; petals oval, equalling the stamens; fruit ovoid-oblong.—Branches acutely tetragonal, or at length cylindrical; leaves 3″–4″ long, variable in the veins, prominulous on both sides or obsolete, tapering towards the petiole, which is 2‴ long; flowers hermaphrodite; petals much exceeding the calyx, 1‴ long; disc repand on the convex margin; anthers cordate-roundish; style short (but longer in Sieber's specimen): stigma 2-lobed; ovary-cells 2, incompletely partitioned; pericarp (still closed) 3‴ long, leathery.—Hab. Trinidad!, *Lockh.*, *Sieb. Tr.* 36; [Guiana!].

2. ELÆODENDRON, *Jacq.*

Calyx 5–4-partite. *Petals* and *stamens* 5–4, the latter inserted on the margin of the disc. *Ovary* immersed, 3–(2–5)-celled: cells 2-ovulate. *Drupe* or *nut* usually 3-celled: seeds erect, "with a membranaceous testa: albumen scanty."—Leaves *opposite, whorled (or inferior alternate), leathery;* cymes *axillary.*

2. **E. xylocarpum,** *DC.* *Leaves* obovate-oblong, *tapering into a very short petiole,* remotely serrulate above (or subentire); cymes corymbiform, peduncled, 2–4 times exceeded by the leaf; flowers 5-androus, hermaphrodite or polygamous; stigmas subsessile; "drupe ovoid, large."—*Vent. Choix, t.* 23.—Cassine, *Vent.* E. rotundatum, *DC.*—A low tree; leaves 2″ long; petals obovate, 1‴ long.—Hab. Caribbean Islands; [Bermudas!, *Lane*].

3. **E. attenuatum,** *Rich.* *Leaves* obovate, *tapering into a long petiole,* quite entire, or subcrenate-repand above; cymes trichotomous, peduncled, twice exceeded by the leaf; flowers 5-androus, diœcious; stigmas subsessile; drupe ovoid, large, with a bluntish point.—Freziera dioica, *Macf.!*—A low tree; leaves 4″–2″ long: petiole 6‴–4‴ long; divisions of the cyme corymbiform; drupe 10‴ long: sarcocarp thin, yellow: putamen very hard.—Hab. Jamaica!, *Macf.*, Port Royal; S. Vincent!, *Guild.;* [Guadeloupe!, Chiapas!].

The East Indian *E. glaucum*, Pers., is a tree, introduced into Jamaica: this has lax cymes as long as the leaves; and a 2-celled ovary with a distinct, simple style.

3. MYGINDA, *Jacq.*

Calyx 4-partite. *Petals* and *stamens* 4, the latter inserted on the margin of the disc. *Ovary* immersed, 4-celled: cells uniovulate. *Drupe* usually 1-seeded by early abortion: seeds mostly erect, with a membranaceous testa: aril minute, obsolete.—Shrubs; leaves *opposite or whorled;* cymes *axillary.*

4. **M. Rhacoma,** *Sw.* Branchlets tetragonal; *leaves* obovate or oval, serrulate, *subsessile,* glabrous or puberulous beneath; *cymes* peduncled, few-flowered, *nearly as long as the leaves;* style distinct: stigma 4-dentate; drupes obovate.—*Br. Jam. t.* 17. *f.* 1.—Rhacoma Crossopetalum. *L.* M. Uragoga, *Rich. Cub.* (Jacquin's plant, from its figures, *Amer. Pict. t.* 22, and *Desc. Fl.* 4. *t.* 251, appears to be distinguished by globose drupes and ovate leaves).—A low shrub; leaves 8‴–12‴ long, usually rounded at the top: veins distant; petals ½‴, drupes 2‴ long.—Hab. Jamaica!, *Macf., Pd., March,* on the sandy seashore; [Florida!, Cuba].

5. **M. pallens,** *Sm.* Branchlets tetragonal; *leaves* obovate or oval-oblong, remotely serrulate above or repand, *shortly petioled,* glabrous; *cymes* peduncled, twice dichotomous, few-flowered, 2–3 *times exceeded by the leaves; style distinct:* stigma 4-dentate; *drupes obovate.*—M. latifolia, *β, Gr. Carib.*—A low shrub; leaves blunt, variable, 1″–2″ long, ½″–1″ broad; flowers and drupes red.—Hab. Nevis!, Antigua!, *Nichols.*, S. Lucia!, *Anders.*, on limestone hills; [Cuba!, Guadeloupe!].

6. **M. latifolia,** *Sw.* Branchlets tetragonal; *leaves* elliptical or spathulate, *tapering into the petiole,* glabrous: serratures minute, very distant, or none; *cymes* peduncled, divaricated-dichotomous, few-flowered, 2–4 *times exceeded by the leaves; stigmas* 4, *sessile; drupes ovoid-oblong.*—*Tuss. Fl.* 2. *t.* 23?: distinguished by globose drupes.—M. Uragoga, *Tuss.?*—A low shrub; leaves leathery, 2″–1″ long, 1″–½″ broad: petiole 2‴–3‴ long; flowers white; drupes 2‴ long, 1‴ broad, crowned with the sessile stigmas.—Hab. Jamaica (*Spreng.*); [Cuba!, Guadeloupe!, on limestone hills].

4. SCHÆFFERIA, *Jacq.*

Flowers diœcious. *Calyx* 4-partite. *Petals* and *stamens* 4, hypogynous around an abortive ovary. *Disc* none. *Ovary* 2-celled: cells uniovulate; stigmas 2. *Drupe* dry, 2(–1)-celled: seeds erect, exarillate, with a membranaceous testa.—Shrubs; leaves *quite entire, alternate;* pedicels *axillary, fascicled.*

7. **S. frutescens,** *Jacq.* Glabrous; leaves elliptical, veiny, tapering at the base; *pedicels as long as or longer than the flowers;* berry ovoid-globose.—*Sl. t.* 209. *f.* 1. *Sw. Fl. t.* 7 *A: analyt.*—S. completa, *Sw.*—About 10′ high; leaves 1½″ long, leathery, pointed, or blunt; pedicels 1‴–2‴, flowers 1‴ long; berry scarlet, 2‴ long; embryo axile in a fleshy albumen: cotyledons large, leafy: testa thin, brownish.—Hab. Jamaica!, *Al., M'Nab, March,* common; Antigua!, *Nichols.;* [Key West, Cuba!, Guadeloupe!, New Granada].

LIII. ILICINEÆ.

Stamens uniseriate, usually epipetalous (the petals being connected at the base), or hypogynous. *Pistil* syncarpous: ovules solitary in each cell, suspended. *Pericarp* baccate. *Embryo* minute, in the top of fleshy albumen.—Woody plants; leaves *simple;* flowers *small, axillary.*

Acrid, aromatic, and tonic principles occur in this Order. *Ilex sideroxyloides* is a timber-tree in Dominica.

1. ILEX, *L.*

(Prinos, *L.*)

Calyx 4–6(–8)-partite. *Corolla* rotate, or petals subdistinct, slightly connected by the filaments. *Berry* with 4–8 bony nutlets, crowned with the sessile stigmas.—Leaves *alter-*

nate, leathery and glabrous in the West Indian species; flowers *usually fascicled, or in corymbs, often diœciously polygamous.*

§ 1. *Most of the flowers perfect; corolla rotate* (Aquifolium).

1. **I. obcordata,** *Sw.!* Shrubby; *leaves small, obovate* or spathulate, *emarginate-mucronulate*, tapering into the short petiole, convex, veinless and shining above, *quite entire; corymbs* 3-flowered, subsolitary, *exceeding the petiole;* flower-organs in fours; corolla rotate; berry....—*Hook. Ic. t.* 294.—I. cuneifolia, *Hook.* I. myrtifolia, *Lam.?*—30′ (*Pd.*) –2′ high; branchlets fastigiate, very leafy, multicostate: the angles excurrent into the stipules; leaves 4‴–12‴, petiole 1‴–2‴ long; anthers ovate-oblong.—HAB. Jamaica!, *Pd.*, *Macf.*, on the highest peaks of the Blue Mountains.

2. **I. occidentalis,** *Macf.!* (*exclus. syn. Sw.*). Arboreous: *leaves* oval or *roundish*, emarginate or obsoletely pointleted, abruptly tapering into the petiole, mostly veinless on both sides, *quite entire; corymbs as long as the petiole*, with accessory pedicels; flower-organs in sixes or fours: corolla rotate; berry....—A low tree; leaves 2″–1″: petiole 3‴–4‴ long; corolla 3‴–4‴ diam.; anthers ovoid-oblong, rounded at the base.—HAB. Jamaica!, *Pd.*, *Macf.*, Port Royal and Blue Mountains, Dominica!, *Imr.*, in the mountains.

§ 2. *Most of the flowers polygamous; corolla rotate* (Prinos).

3. **I. dioica,** *Gr.* Arboreous; *leaves elliptical-oblong*, or oval, bluntish, rounded at the base, quite entire or remotely serrulate-repand, shining above: principal veins delicate, prominulous on both sides: petiole channelled above; *corymbs as long as the petiole*, fascicled, with accessory pedicels; flower-organs in fours or fives; corolla rotate; *berry* globose, *smooth:* nutlets usually 5, smooth.—*Vahl, Eclog. t.* 14. Prinos, *V.*—A middle-sized tree, leaves 4″–2″, petiole 4‴–8‴ long; corolla 3‴–4‴ diam.; anthers ovate, blunt, subcordate at the base; berry 2‴ diam.—HAB. Jamaica!, *Wils.*, *Al.*, *March*, Bath, at 1200′ alt., Moneague; Montserrat.

§ 3. *Corolla divided nearly to the base* (Prinodia).

4. **I. montana,** *Gr.* Arboreous; *leaves* elliptical or ovate-lanceolate, acuminate or bluntish, subacute at the base, remotely and *sharply serrulate* above the base, (or entire), veiny beneath; *corymbs* solitary, *exceeding the petiole;* flowers mostly perfect: organs usually in sixes (or in fours to eighths); corolla divided nearly to the base: *berry* globose, *sulcate:* nutlets grooved.—Prinos, *Sw.*—A tree, 30′–40′ high; leaves variable, 1½″ (or 3½″–1″), petiole 4‴–10‴, petals 1‴ long; anthers ovate; berry purple, 2‴ diam.

α. Leaves elliptical, or elliptical-roundish, bluntish, 1½″ long.—I. Cassine, *Rich. Cub.* (*non Ait.*). Prinos sideroxyloides, *Sw.!:* probably a form with entire leaves.

β. lanceolata. Leaves small (1″ long), ovate-lanceolate, acuminate.—Prinos lanceolatus, *Macf.!* (*non Pursh*). P. Macfadyeni, *Wp.* Ilex minutiflora, *Rich.*

γ. ovata. Leaves large (3″–3½″ long), ovate, long-acuminate, long-petioled: petiole as long as the common peduncle.

HAB. Jamaica!, all collect., common in the mountains (*α*, *β*); Dominica!, *Imr.* (*γ*); [Cuba!, Guadeloupe!].

5. **I. Macoucoua,** *Pers.* Arboreous; *leaves obovate-oblong*, or oval-oblong, emarginate, blunt, or with a bluntish point, tapering into the petiole, *quite entire*, shining above, veiny beneath; *corymbs* fascicled, *a little exceeding the petiole;* flowers polygamous: organs usually in fours; corolla divided nearly to the base; *berry* globose, *smooth:* nutlets 4, smooth.—*Aubl. t.* 34.—Cassine maurocenia, *Sieb. Tr.* 31!—Leaves 2″–6″, petiole 3‴–4‴, petals ⅔‴ long; anthers ovate-roundish, small; berry 1½‴ diam.—HAB. Dominica!, *Imr.;* Trinidad!, *Sieb.*, *Cr.;* [Guiana!, Pernambuco!].

6. **I. sideroxyloides,** *Gr.* (*Pl. Carib.*). Arboreous; *leaves elliptical*, with a bluntish point, shortly tapering into the petiole, *quite entire*, shining above, veiny; *corymbs as long as the petiole*, with accessory pedicels; flowers perfect: organs in fours or fives; corolla divided nearly to the base; *berry* globose, *smooth*, nutlets 4–5, smooth.—Prinos nitidus, *V.?*—A large tree; leaves3″, petiole 6‴, petals 1½‴ long; berry 2‴–3‴ diam.; anthers cordate.—HAB. Dominica!, *Imr.;* [Guadeloupe!].

LIV. HIPPOCRATEACEÆ.

Calyx 5-fid. *Petals* 5. *Stamens* 3, inserted on the inside of a large disc. *Ovary* 3-celled: styles cohering below: ovules definite, ascending. *Embryo* exalbuminous.—Woody plants; leaves *simple, opposite, stipulate;* inflorescence *axillary.*

The oily seed of *Hippocratea comosa* is eatable, and so are the berries of *Salacia.*

1. HIPPOCRATEA, *L.*

Anthers transversely dehiscent: cells confluent. *Carpids* at length separated, striated, leathery, navicular-compressed, medianicidal-bivalved: seeds attached to their base, usually by means of an elongated, inferior wing.—Shrubs, usually climbing; leaves *glabrous in the West Indian species;* panicles *or* cymes *dichotomous, peduncled.*

1. **H. scandens,** *Jacq.* *Leaves* elliptical or oblong, *serrulate;* cymes, rusty-pruinose, exceeded by the leaves: divisions distant; petals obovate, small; *carpids* spathulate-oblong, *emarginate at the top.—Jacq. Amer. Pict. t.* 12.—H. volubilis, *L.* H. obcordata, *Lam.*—A climbing shrub: petals greenish-yellow, 1½‴ long; disc obtusely conical; filaments short; carpids 1½″–2½″ long, 8‴ broad: seeds 4–6.—Hab. Caribbean Islands; [Haiti, Martinique; Panama!, New Granada!].

2. **H. ovata,** *Lam.* *Leaves* elliptical-oblong, *serrulate;* panicles rusty-velutinous, usually exceeding the leaves: special cymes distant; petals oblong, small; *carpids* oval, or oval-roundish, *rounded at the top.—Lam. Ill. t.* 28. *f.* 2. *Desc. Fl.* 4. *t.* 290.—H. volubilis, *Sw.* H. lævigata, *Rich.* H. discolor, *Mey.!*—A climbing shrub; petals 1‴ long; disc and filaments as in the preceding; carpids 1½″ long, 1″ broad: seeds about 4.—Hab. Jamaica (*Robins.*); Trinidad!, *Pd.;* [Cuba! to Guiana!, Panama!, New Granada!, Rio Negro!].

3. **H. scutellata,** *Gr.* (*n. sp.*). *Leaves* oval-oblong, *quite entire*; cymes hoary-velutinous, twice exceeded by the leaves; *flowers enlarged by the broad, depressed disc:* petal-limb roundish; *carpids* obovate-oblong, or ovoid-oblong, *rounded at both ends.*—Branches puberulous or glabrate; leaves 3″–4″ long, shortly apiculate, rounded at both ends: petiole thickish, 3‴ long, puberulous; cymes usually contracted, as long as their peduncle; flowers 5‴–6‴ diam.; calyx-lobes ovate, pointed, half as long as the petals; petals 1½‴–2‴ diam., shortly and broadly clawed: limb lacerate on the margin; disc orbicular-depressed, scutelliform with an involute-erect margin, pubescent, 2‴ diam.: stamens inserted into its centre; filaments linear, divergent, 1‴ long: anthers minute, roundish, with confluent cells; carpids 1½″ long, 9‴ broad.—Hab. Trinidad!, *Pd., Lockh.;* [Guiana!].

4. **H. comosa,** *Sw.* *Leaves* oblong, *quite entire; panicles* glabrous, equalling the leaves, *bearing numberless, sterile,* hair-like, rusty *pedicels,* which exceed much the intermixed fertile ones; flowers minute; petal-limb ovate, blunt; "carpids obovate or oblong."—A high climber; leaves 6″–4″ long, reticulated-veiny; the sterile pedicels about 8‴ long, either naked or terminated with an abortive flower; flowers ½‴ diam.; disc cupuliform, thin; stamens very short, contiguous.—Hab. Trinidad!, *Sch., Cr.;* [Haiti.].

5. **H. malpighifolia,** *Rudge.* *Leaves* oblong or oval-oblong, *quite entire;* panicles lax, glabrous, equalling or exceeding the leaves; *petals large,* obovate, 6–8 times exceeding the calyx; "carpids orbicular: seeds wingless."—*Rudge, Guian. t.* 8. *Payer, Organ. t.* 35. *f.* 34–44: *analyt.* Tonsella, *Mey.!* H. integrifolia, *Rich.* H. grandiflora, *Pay.* H. Kappleriana, *Miq.!*—Petals 4‴ long, not clawed, glabrous, devoid of the transverse keel of other species; disc cupuliform, thin; stamens short: young anthers 4-celled, 4-lobed.—Hab. Jamaica!, *Wils.;* S. Vincent!, *Guild.;* [Cuba to Guiana!, Veraguas].

2. SALACIA, *L., Benth.*

Anthers adnate, bilocular. *Pericarp* baccate.

6. **S. scandens,** *Gr.* Leaves oblong, pointed, quite entire, glabrous; cymes axillary, dichotomous, exceeded by the leaves; "berry globose, minute."—*Aubl. t.* 10.—Tontelea, *Aubl.*—A climbing shrub.—Hab. Trinidad; [Guiana, Panama!].

LV. CHAILLETIACEÆ.

Calyx-divisions 5. *Petals* 5, often bilobed. *Stamens* 5 (-3). *Ovary* 3–2-celled: ovules 2 in each cell, pendulous. *Embryo* exalbuminous.—Woody plants; leaves *entire, alternate, stipulate;* inflorescence *axillary:* peduncles *often adhering to the base of the petiole.*

1. CHAILLETIA, *DC.*

Petals distinct. *Stamens* 5. *Pericarp* drupaceous.

1. **Ch. pedunculata,** *DC.* Leaves oval-oblong, glabrous, scabrous on the nerves beneath; cymes corymbiform, whitish-pubescent: peduncles adnate to the base of the petiole; petals bilobed; styles distinct.—*Ann. Mus.* 17. *t.* 1.—A climbing shrub: leaves 6″–4″ long, 2–3 times exceeding the cymes.—Hab. Trinidad!, *Pd.*, *Cr.*, rare at S. Anns; [Guiana!].

LVI. URTICACEÆ.

Flowers apetalous, mostly unisexual. *Stamens* uniseriate, inserted into the torus, opposite to the calyx-divisions. *Ovary* reduced, one-celled: ovule single: styles 2–1, usually furnished with collecting hairs. *Radicle* superior.—Leaves *simple, stipulate, often scabrous.*

The rich milk of *Artocarpeæ* is either poisonous, or wholesome: it contains often an abundance of caoutchouc (*Ficus*), or bird-lime is prepared from it (*Artocarpus*). The tenacity of the fibres is remarkable in *Urticeæ* proper. The syncarpia, or fruits, or seeds, are eatable in several instances (*Artocarpus, Maclura, Brosimum*). Drugs are obtained from the root of Contrajerva (*Dorstenia*), and from the Trumpet-tree (*Cecropia*). The Fustic-wood (*Maclura*) contains a yellow pigment. Several West Indian *Urticaceæ* are valuable timber-trees (*Artocarpus, Brosimum, Pseudolmedia, Ficus laurifolia,* etc.).

Tribe I. *ULMACEÆ.—Flowers polygamous. Styles* 2. *Seed suspended.*—Woody plants, with a watery sap; leaves alternate.

1. CELTIS, *L.*

Calyx 5(4–6)-partite, deciduous. *Anthers* included, introrse. *Ovule* campylotropous. *Pericarp* drupaceous. *Cotyledons* anfractuose, enclosing a little albumen.—Leaves 3-*nerved;* pedicels *axillary, jointed at the top.*

Sect. 1. Euceltis.—*Anthers produced at the base. Styles linear, entire.*

1. **C. trinervia,** *Lam.* *Leaves* ovate, oblique at the base, cuspidate, serrate above, *glabrescent;* pedicels fascicled, or cymose; *drupe globose: its pedicel three times the length of the petiole.*—C. jamaicensis, *Planch.!* C. Swartzii, *Planch.*—An unarmed tree; leaf-nerves proceeding from the oblique base, sharply prominulous beneath.—Hab. Jamaica!, *Macf.*, *Al.*; [Haiti].

Sect. 2. Mertensia.—*Anthers equal at the base. Styles bifid.*

2. **C. aculeata,** *Sw.* *Spines* stipular, *recurved;* leaves ovate-oblong, subtriplinerved, slightly oblique at the base; pedicels cymose; *drupe ovate: its pedicel as long as the petiole.*—*Cav. Ic. t.* 294. *Kth. Nov. Gen. t.* 103.—Rhamnus iguaneus, *L.* Mertensia aculeata, *W.* M. lævigata, *Kth.*—A trailing or scandent shrub.

α. Leaves quite entire, glabrous.
β. serrata. Leaves serrate above.
γ. pubescens. Leaves and inflorescence pubescent.

Hab. Jamaica!, *Macf.*, *Al.*, (*α*, *β*), *Pd.* (*γ*); Dominica!, *Imr.*, [Cuba! and Mexico to Venezuela!, New Granada! and Peru!].

2. SPONIA, *Comm.*

Calyx 5-partite, persistent, induplicative-imbricate. *Anthers* exserted, introrse. *Ovule*

campylotropous. *Pericarp* drupaceous, minute. *Cotyledons* fleshy-incurved, anfractuose. —Leaves *serrulate; cymes axillary;* pedicels *articulated.*

3. **S. micrantha,** *Decs.* Scabrous; *leaves oblong-lanceolate, acuminate, oblique at the base;* cymes sessile, usually geminate, nearly as long as the petiole.—*Br. Jam. t.* 12. *f.* 2.—Rhamnus, *L.* Celtis, *Sw.* C. Lima, *Sw.:* a form with the leaves very scabrous above. C. rufescens, *Planch.!*—A tree, about 20′ high, or shrubby; leaves 4″–6″ long; drupes ovate-globose, 1‴ long.—Hab. Jamaica!, all collect., common; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 45, *Pd.*, *Cr.;* [Cuba!, Venezuela! to Brazil!].

4. **S. mollis,** *W.* Branchlets velutinous-pubescent; *leaves ovate, acuminate,* equal or slightly oblique at the base, scabrous above, *soft-pubescent* or puberulous *beneath;* cymes sessile, scarcely as long as the petiole.—A high tree; leaves 4″ long.—Hab. Antigua!, *Wullschl.;* Dominica!, *Imr.;* [Cuba!, Venezuela!].

5. **S. Lamarckiana,** *Decs.* Scabrous; *leaves* small, *ovate-lanceolate, pointed, equal at the base;* cymes subsessile, exceeding the petiole.—Celtis, *R. S.* C. Lima, *Lam.*—A tortuous tree; leaves 1″ long, shortly petioled, revolute on the margin, somewhat hoary beneath, very scabrous above; drupes ovate, 1‴ long.—Hab. Bahamas!, *Swains.;* Jamaica!, *Macf.;* Dominica!, *Imr.;* S. Vincent!, *Guild.*

Tribe II. *ARTOCARPEÆ.—Flowers unisexual. Stamens erect in the bud.*—Woody plants, with a milky sap; leaves alternate.

3. FICUS, *L.*

Inflorescence androgynous: flowers sessile on the inner side of a hollow, fleshy receptacle (the fig), which is involucrate at the base and bracteolate at its minute, terminal aperture. *Calyx-divisions* 2–6. *Stamens* 1–2–6. *Style* simple or bipartite. *Ovule* pendulous.—Leaves *in the West Indian species alternate, quite entire, glabrous.*

Sect. Urostigma.—*Calyx 3-partite. Stamen* 1. *Style simple.*

The only West Indian species, described as belonging to the diandrous section *Pharmacosycea* (*Ph. jamaicensis*, Liebm.), is a large-leaved tree, but a doubtful species, its flower and fruit being unknown.

* *Figs* 8‴–12‴ *diam.*

6. **F. laurifolia,** *Lam. Leaves elliptical-oblong, pointed,* cuneate or rounded at the base, 12–15-costate; *figs globose, 2–3 times as long as the pedicel,* puberulous or glabrate: bracteoles broad, forming a distinct, umbilicated-convex, perforated mamilla: involucre minute.—*Sl. t.* 223.—F. virens, *Ait.* F. martinicensis, *W.* Urostigma laurifolium, *Miq.* (*non Gr. Pl. Carib.*).—A large tree; leaves with minute, white points above, 6″–8″ long, 2½″–3″ broad: petiole 1″–1½″ long; fig 10‴–12‴ diam., red: pedicel 4‴–5‴ long; involucre 2–3-partite: segments 2‴ long; mamilla 2‴ diam., ½‴ high.—Hab. Jamaica!, *Wils.*, *March;* Dominica!, *Imr.*, in the mountains.

7. **F. suffocans,** *Hb. Bks. Leaves elliptical, bluntish* at both ends, 7–8-costate; *figs globose, much longer than the pedicel,* glabrous, flat at the perforated top: involucre minute.—*Plum. Ed. Burm. t.* 131. *f.* 3.—F. citrifolia, *Lam.?*—Leaves somewhat scabrous with white, minute points on both sides, 4″ long, 2″ broad: petiole 6‴–8‴ long; fig 8‴–10‴ diam.; involucre bilobed: lobes roundish, 1‴ diam.—Hab. Jamaica!, *Al.*, *Wils.*, *March,* at Moneague, Bath.

8. **F. crassinervia,** *Desf. Leaves oval, rounded at the top, or with a bluntish point,* subcordate or rounded at the base, 7–9-costate; *figs globose, subsessile, velvety:* bracteoles closing the aperture, surrounded by a callous, mamilliform ring; *involucre* bilobed, large, velvety, ⅓ or ½ *as large as the fig.*—Urostigma, *Miq.!* U. Gardnerianum, ex Antigua, *Miq.!*, the form with rounded leaves. U. trigonatum, *Gr. Pl. Carib.* (*non Miq.*).—A tree; leaves 5″–9″ long, 3″–6″ broad: petiole 2″–9″ long; fig 8‴–10‴ diam.—Hab. Jamaica!, *Macf.*, *March*, *Wullschl.;* Antigua!, *Nichols.*, *Wullschl.;* [Cuba!, Guadeloupe!].

** *Figs* 4‴–8‴ *diam.*

9. **F. trigonata,** *L. Leaves oval,* rounded at both ends, or subcordate at the base,

6–8-costate; *figs globose, 4–6 times as long as the pedicel,* or subsessile, puberulous or glabrate: bracteoles closing the aperture, forming a bluntly conical mamilla; *involucre* bilobed, large, puberulous, ¼ *as large as the fig.—Plum. Ed. Burm. t.* 132. *f.* 1.—Urostigma, *Miq.*—Leaves with minute white points above, 3″–5″ long, 2″–3″ broad: petiole 4‴–10‴ long; fig 5‴–8‴ diam.: pedicel 1½‴ long.—HAB. Jamaica!, *March, Wullschl.*

10. **F. lævigata**, *V. Leaves cordate-ovate or ovate, pointleted,* 6–8-costate; *figs turbinate, as long as the cernuous pedicel,* glabrous, slightly impressed-umbilicate at the perforated, bracteolate top; involucre minute, bilobed.—Urostigma, *Liebm.*—Leaves somewhat scabrous with white, minute points above, glabrous and minutely reticulated with veins beneath, 3½″–1½″ long, 2¼″–1″ broad: petiole 8‴–18‴ long; fig greenish, 6‴ diam.: terminal impression 2‴ diam., flat; involucral lobes roundish, 1‴ diam.—HAB. Jamaica!: *March;* [Cuba!].

11. **F. lentiginosa,** *V. Leaves ovate, pointleted,* rounded at the base or subcordate, 8–10-costate; *figs globose,* glabrous, 3–4 *times longer than the pedicel,* flat at the closed top; involucre minute, bilobed.—*Tuss. Fl.* 2. *t.* 14: a form with bluntish leaves.—Urostigma, *Liebm.* U. laurifolium, *Gr. Carib.* (*non Miq.*). F. tinctoria, *Tuss.*—Leaves 7″–3″ long, 4″–2″ broad: petiole 2″–1″ long; fig 6″–8″ diam., red: pedicel 2‴–1‴ long.—HAB. Montserrat, Dominica!, *Imr.;* [Guadeloupe!].

12. **F. dimidiata,** *Gr.* (*n. sp.*). *Leaves elliptical, bluntish* at both ends, 8–10-costate; *figs globose, subsessile,* glabrate: *bracteoles* closing the aperture, forming a convex mamilla, and *surrounded by a callous ring;* involucre large, ½ or ⅓ as large as the fig: lobes about 4, irregular, deltoid or rounded, usually subdimidiate.—Leaves with minute points above, 4″–2″ long, 2″–1″ broad: petiole 8‴–10‴ long; fig 6‴–4‴ diam.—HAB. Jamaica!, *Wullschl.*, Manchester; [Cuba!].

13. **F. ochroleuca,** *Gr. Leaves oblong* or elliptical-oblong, *pointed,* rounded or shortly cuneate at the base, obsoletely 8–12-costate; *figs globose, longer than the spreading pedicel,* glabrous, pale-yellow, *deeply concave at the top:* bracteoles closing the aperture, forming a convex point in the middle of the concavity; involucre minute, bilobed. F. pertusa, *Sw.! Observ.* (*non alior.*). F. americana, *Lun.* (*non Sw.*).—A tree; leaves with minute whitish points on both sides, 4″–2″ long, 1½″–1″ broad: petiole 6‴–8‴ long; fig 5‴–6‴ diam.: terminal concavity convex on the margin, 1½‴ diam.: pedicels often geminate, 4‴–3‴ long; involucral lobes rounded, spreading, scarcely 1‴ long.—HAB. Jamaica!, *Al., March.*

14. **F. populnea,** *W. Leaves ovate-oblong,* usually with a bluntish point, rounded or subcordate at the base, obsoletely 6–8-costate; *figs globose, nearly as long as the pedicel,* glabrous, red: *bracteoles* closing the aperture, *forming an obtusely conical mamilla;* involucre minute, bilobed.—Urostigma, *Miq.!*—Leaves 3″–2″ long, 1½″–1″ broad: petiole 8‴–15‴ long; fig 4‴–5‴ diam.: pedicel 3‴–4‴ long, spreading; involucral lobes roundish, scarcely 1‴ long.—HAB. Antigua!, *Nichols., Wullschl.*

15. **F. pedunculata,** *Ait. Leaves lanceolate-oblong* or elliptical-oblong, with a bluntish point, cuneate at the base (or rounded), obsoletely 8–12-costate; *figs globose, nearly as long as the pedicel,* glabrous, red, *flat at the top,* or somewhat callous around the closed, flat aperture; involucre slightly bilobed, twice exceeded by the transverse diameter of the fig.—Urostigma, *Miq.*—A large tree; leaves somewhat scabrous with white points, usually 3″ long, 1½″ broad: petiole 4‴–6‴ long; fig 4‴ diam.; pedicels deflexed, usually geminate, 4‴–3‴ long; involucre 2‴ diam.: lobes round.—HAB. Jamaica!: all collect., common; [S. Croix].

16. **F. pallida,** *V. Leaves lanceolate-oblong,* bluntish, cuneate towards the bluntish base, obsoletely 8–14-costate; *figs globose,* 3–4 *times longer than the pedicel,* glabrous, red: bracteoles closing the aperture, forming a small, convex mamilla; involucre minute, bilobed. —Nearly allied to the preceding; leaves with minute white points above, 2″–4″ long, 1–1¾″ broad: petiole 3‴–8‴ long; fig 4‴ diam.: pedicel about 1‴ diam.: involucral lobes scarcely 1‴ long.—HAB. Jamaica!, *March;* Dominica!, *Imr.;* [New Granada].

*** *Figs* 2‴–3‴ *diam.*

17. **F. Schumacheri,** *Gr. Leaves lanceolate-oblong* or oblong, pointleted or bluntish,

rounded at the base, obsoletely 8–14-costate; *figs globose,* geminate, *nearly as long as the pedicel, pruinose, flat at the top,* or somewhat callous around the flat, closed aperture; involucre bilobed, minute.—Nearly allied to *F. gemina,* R. P., but without the terminal concavity of its fig.—Leaves with white points above, 2½″–3″ long, ¾″–1½″ broad: petiole 3‴–6‴ long; fig 2½‴ diam.: pedicel 2‴ long.—Hab. Trinidad!, *Cr.*

18. **F. pertusa,** *L.* *Leaves* small, *oval-oblong* or oblong, rounded at the top, blunt at the base, obsoletely 8–10-costate; *figs globose,* geminate, 3–4 *times longer than the pedicel,* glabrous, yellowish, at length red, somewhat concave at the top: bracteoles closing the aperture, forming a bluntly-conical mamilla; involucre bilobed, minute.—*Plum. Ed. Burm. t.* 132. *f.* 2.—Urostigma, *Miq.* F. americana, *Sw.*—A tree, about 20′ high; leaves leathery, 2″–1″ long, 12‴–8‴ broad: petiole 2‴–3‴ long, thickish; fig 2‴ diam.: pedicel nearly ½‴ long.—Hab. Jamaica (*W.*); [Guadeloupe!, Guiana!].

4*. ARTOCARPUS, *L.*

Flowers monœcious, sessile on the outside of a fleshy, globose or oblong receptacle. ♂: *Sepals* 2 (–4); stamen 1. ♀ *Flowers* cohering; calyx tubulose, perforated at the top; style simple, or 2–3-partite. *Ovule* pendulous. *Embryo* exalbuminous.—High trees; peduncles *axillary, with a single flower-head.*

19*. **A. incisa,** *L.* *Leaves* roundish, *pinnatifid:* lobes oblong, pointed; ♂ calyx bifid; style 2–3-partite.—*Tuss. Fl.* 2. *t.* 2. 3. *Desc. Fl.* 8. *t.* 539.—Hab. Naturalized in Jamaica!, *Al.;* S. Vincent!, *Guild.;* [Pacific and East Indian islands].

20*. **A. integrifolia,** *L.* *Leaves* elliptical, pointed, *entire* (rarely lobed); ♂ calyx bipartite; style simple.—*Tuss. Fl.* 2. *t.* 4.—Hab. Naturalized in S. Vincent!, *Guild.;* Trinidad!, *Schach;* [Pacific and East Indian islands].

5. PSEUDOLMEDIA, *Tréc.*

Flowers diœcious, surrounded by sterile bracts: ♂ in the axils of the inner bracts, reduced to naked, fascicled stamens; ♀ solitary, terminal: calyx adnate, tubulose, at length baccate: style bipartite. *Ovule* pendulous.—Leaves *entire;* ♂ flowers *in axillary, glomeruliform, sessile aments,* ♀ *enclosed within similar involucres.*

21. **P. spuria,** *Gr.* *Glabrous;* leaves oblong or elliptical-oblong, pointleted, equal at the base: principal vein-pairs 9–12, prominulous beneath.—Brosimum, *Sw.!* P. havanensis, *Tréc.!*—A high tree; leaves leathery, 6″–3″ long, 2″–1″ broad, shortly petioled; aments subglobose, 2‴ diam.—Hab. Jamaica!, *Sw., Al.,* S. Anns; [Cuba!].

6. BROSIMUM, *Sw.*

Flowers monœcious, or diœcious by abortion, naked: ♂ sessile on the outside of a globose receptacle, reduced to a single stamen, separated by peltate bracts; ♀ 1–2, terminal, immersed in and adherent to a cavity of the receptacle, from which the 2-dentate style is shortly exserted. *Ovule* pendulous. *Receptacle* baccate. *Embryo* exalbuminous.—Trees; leaves *quite entire;* receptacles *axillary, peduncled.*

22. **B. Alicastrum,** *Sw.* *Leaves* oblong or elliptical-oblong, pointleted or pointed, *glabrous:* principal veins about 12 on each side of the midrib; pedicels as long as the petiole, and as the diameter of the ament.—*Sw. Fl. t.* 1: *analyt. Tuss. Fl.* 1. *t.* 9. *Desc. Fl.* 8. *t.* 534.—A high tree; leaves 6″–3″ long; aments 2‴–3‴ diam.; fruit globose, 10‴–12‴ diam.—Hab. Jamaica (*Sw., Tuss.*); [Mexico! to Yucatan].

23. **B. Aubletii,** *Pœpp., Endl.* *Leaves* oblong or obovate-oblong, pointleted, shining above, *puberulous* and rusty *beneath:* principal veins about 8 on each side of the midrib; aments shortly peduncled, nearly equalling the petiole.—*Aubl. t.* 340. *f.* 2.—A low tree; leaves 3″–2″ long.—Hab. Trinidad!, *Pd.,* in woods at S. Anns; [Guiana!, Northern Peru, and Brazil].

7. CECROPIA, *L.*

Flowers diœcious, sessile on the outside of cylindrical, umbellate receptacles. *Calyx*

tubular, ♂ 2-androus, ♀ with a free ovary and penicillate stigma. *Ovule* erect, atropous. *Pericarp* nucamentaceous.—Trees; leaves *peltate-roundish, usually palmatilobed, with the lobes subentire, and white-tomentose beneath*; peduncles *axillary*: receptacles *ebracteolate, but before flowering enclosed within a large bract, covered with the flowers from the base to the top, ♀ thicker than the ♂ ones.*

24. **C. peltata,** *L.* *Leaves 9–7-lobed to $\frac{1}{3}$ of the diameter*, scabrous above, white-tomentose beneath, with the nerves usually glabrescent: lobes ovate, pointleted; ♂ receptacles numerous, shortly stipitate ($1\frac{1}{2}''$ long, $1'''$ diam.), ♀ 4–2, sessile ($2''$ long, $3'''$ diam.).—*Sl. t.* 88. *f.* 2, *et t.* 89. *Desc. Fl.* 1. *t.* 75.—A middle-sized tree: medulla septate; leaves above $1'$ diam.: inferior lobes shorter.—Hab. Jamaica!, *Al.*, *Wullschl.*; Caribbean Islands!; [Venezuela].

25. **C. palmata,** *W.* *Leaves 9(–11–7)-lobed to the middle*, scabrous or glabrescent above, white-tomentose beneath: lobes obovate-oblong, blunt; ♂ receptacles . . . , ♀ 4, sessile ($1\frac{1}{2}''$ long, $2'''$ diam.).—Caribbean Islands!, [Guadeloupe!, Guiana!, Pará].

Tribe III. *MOREÆ.—Flowers unisexual. Stamens inflexed in the bud, usually elastic. Ovule pendulous, campylotropous.*

8. TROPHIS, *L.*

Flowers diœcious, spicate. ♂: *Calyx* 4-fid, valvar, 4-androus: stamens exserted. ♀: *Calyx* tubular, contracted at the 4-dentate limb. *Ovary* adnate: style 2-partite. *Pericarp* baccate. *Embryo* exalbuminous.—Milky trees; spikes *axillary, peduncled.*

26. **T. americana,** *L.* Branches glabrescent; *leaves* ovate-oblong or oblong, pointleted, *quite entire*, glabrous: *principal veins 6–8-jugal*, arched; ♂ spikes cylindrical, puberulous, usually geminate, ♀ shorter, 4–8-flowered, about twice as long as the petiole; berry ovoid.—*Br. Jam. t.* 37. *f.* 1. *Desc. Fl.* 1. *t.* 19.—A low tree; leaves rounded at the base, $8''$–$4''$ long; ♂ spikes $2''$, ♀ $4'''$ long: peduncles $4'''$, berry $4'''$–$6'''$ long.—Hab. Jamaica!, *Al.*, *Wils.*, *March*; [Cuba!].

9. MACLURA, *Nutt.*

Flowers diœcious, spicate or capitate. ♂: *Calyx* 4-partite, slightly imbricate, 4-androus: stamens exserted. ♀: *Calyx-segments* 4, at length indurated at the connivent top. *Ovary* free: style simple, filiform, exserted. *Achenia* covering the globose, somewhat fleshy receptacle.—Trees; spines *axillary or none*; inflorescence *axillary, peduncled.*

27. **M. tinctoria,** *Don* (*non Miq.*). Usually unarmed; *leaves subentire*, oblong, acuminate, subtruncate at the base, glabrescent or pubescent on the nerves beneath; ♂ spikes cylindrical; ♀ flower-heads globose, nearly as long as the petiole: styles nearly as long as their diameter.—*Sl. t.* 158. *f.* 1; *Desc. Fl.* 6. *t.* 431.—Morus, *L.*, *Herb.* Macl. subintegerrima, *Miq.*—Hab. Jamaica!, all collect.; [Venezuela! to Peru! and Rio Grande do Sul!].

28. **M. Xanthoxylon,** *Endl.* Usually spiny; *leaves coarsely serrate*, ovate-oblong or oblong, pointleted, rounded or subcordate at the base, which is slightly unequal, glabrate; ♂ spikes cylindrical; ♀ flower-heads globose: styles longer than their diameter.—*Plum Ed. Burm. t.* 204. *Jacq. Amer. Pict. t.* 263. *f.* 76. *Mart. Fl. Bras.* 12. *t.* 53.—Morus, *Jacq.* Broussonetia tinctoria, *Kth.*—Hab. Trinidad!, *Cr.*; [Mexico, Panama!, Bahia!].

10. DORSTENIA, *L.*

Inflorescence androgynous: flowers naked, inserted into the alveoli of a flat receptacle, ♂ 2–4-androus, ♀ with a lateral, bidentate style. *Pericarp* irregularly bivalved. *Embryo* uncinate, exalbuminous.- Herbs *or* shrubs; stipules *usually persistent*; receptacles *axillary, long-peduncled, solitary.*

The West Indian species are stemless herbs, with the peduncles scapiform, and the membranaceous leaves rosulate from a nodose rhizoma.

29. **D. Contrajerva,** *L.* *Leaves cordate-roundish, palmatipartite or palmatifid,* scabrous or glabrescent: segments ovate or oblong, usually acuminate, cut and toothed, or subentire; *receptacles quadrangular,* peltate: peduncle as long as the petiole, dilated at the top.—*Desc. Fl.* 3. *t.* 207.—Leaves 3″–8″ diam.; peduncles 4″–6″ long; receptacles 6‴–8‴ diam., convex beneath, denticulate or lobed on the margin.—Hab. S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Mexico! to New Granada! and Venezuela!].

30. **D. cordifolia,** *Lam.* *Leaves cordate,* bluntish, *repand-entire,* glabrescent, shorter than the petiole; *receptacles orbicular, denticulate,* peltate: peduncle exceeded by the petioles, pubescent.—*Sw. Obs. t.* 7. *f.* 2: *analyt.*—Leaves 3″–1″ long, 1½″–1″ broad: petiole 4″–2″ long; receptacles 4‴ diam., slightly convex beneath.—Hab. Jamaica!, *Pd.*, *Wullschl.*, on river-banks; [Haiti].

31. **D. tubicina,** *R. P.* *Leaves spathulate-oblong,* blunt, subcordate at the base, crenulate, longer than the petiole; *receptacles cyathiform,* orbicular, peltate, subentire or denticulate, pubescent beneath: peduncle nearly as long as the petioles.—*Bot. Mag. t.* 2804.—Leaves hairy or glabrescent, 2½″–1½″ long, 12‴–6‴ broad: petiole 1″ long; concavity of the receptacles 6‴–3‴ diam.—Hab. Trinidad!, *Pd.*, rare in the savannahs at Arima; [Peru].

Tribe IV. *URTICEÆ.—Flowers unisexual. Stamens inflexed in the bud, elastic. Style simple; stigma usually penicillate. Ovule erect, atropous.*

Subtribe 1. *UREREÆ.—Segments of ♀ calyx unequal.*—Hairs stinging or none. Leaves alternate in the West India genera.

11. FLEURYA, *Gaud.*

Calyx ♂ 4–5-partite, 4-androus, ♀ 4-partite or 4-lobed, at length not fleshy. *Style* ovate or elongated, at length reflexed. *Achenium* oblique, mostly margined and tubercled.—Annual herbs; leaves *serrate: stipules axillary, bifid;* flowers *in axillary or paniculate, scorpioid cymes.*

32. **F. æstuans,** *Gaud.* Leaves ovate, pointed, coarsely serrate; cymes usually monœcious and androgynous: ♀ calyx unequally 4-partite; pedicel not dilated; *style very short.*—*Jacq. Schœnbr. t.* 388.—Urtica, *Jacq.* U. divergens, *Mey.!* F. cordata, *Gaud.*—Stem erect, 1′–3′ high, usually glabrous between the stinging hairs (*F. cordata,* Wedd.), or puberulous and glandular (*F. æstuans,* Wedd.); leaves 3″–5″ long.—Hab. Jamaica! to Trinidad!, all collect.; [Mexico! to Brazil!; tropical Africa!; East Indies!].

12. URERA, *Gaud.*

Calyx of *Fleurya,* but at length baccate. *Stigma* mostly subsessile, penicillate. *Achenium* enclosed within the fleshy calyx.—Stem *usually woody;* stipules *axillary;* cymes *usually diœcious.*

* *Cymes 2–3-chotomous; rhaphides on the upper leaf-side punctiform or none.*

33. **U. caracasana,** *Gaud.* Shrubby or arboreous; *leaves* broadly ovate, pointed, usually minutely cordate at the base, crenate-serrate, *pubescent; cymes* axillary or lateral, many times *divaricate-dichotomous;* ♀ *flowers pedicellate;* achenium wholly included.—*Jacq. Schœnbr. t.* 386.—Urtica, *Jacq.* U. æstuans, *Sieb. Mart.* 209. Urera Jacquini, *Wedd.!*—Superior leaves 3″–4″ long and scarcely as broad, inferior often much larger, 1′ long and more: principal veins 6–8-jugal.—Hab. Jamaica!, *Wright;* S. Lucia!, *Anders.*; Trinidad!, *Cr.*; [Mexico! to Buenos Ayres!].

34. **U. elata,** *Gr.* Arboreous; *leaves* ovate or ovate-oblong, pointleted, emarginate at the base, crenate (rarely sinuate-subentire), *glabrous* or glabrescent beneath; *cymes* axillary or lateral, several times *divaricate-dichotomous: ultimate branchlets of ♀ filiform, with* 3 (–7) *sessile flowers;* achenium wholly included.—Urtica, *Sw.!* Urera sinuata, *Wedd.!*—A low tree, 20′ high, or lower; leaves 6″–4″ long, 3″–2″ broad.—Hab. Jamaica!, *Dist.*, *Wils.*, *Al.*, *March,* in the southern hills; [S. Croix].

35. **U. expansa,** *Gr.* Woody; *leaves* elliptical or elliptical-oblong, bluntish or pointleted, usually emarginate at the base, crenate (rarely sinuate-repand), *glabrous; cymes* axillary or lateral, peduncled, many times *divaricate-dichotomous;* ♀ *flowers long-pedicellate;* achenium . . . .—Urtica, *Sw.!*, *adnot.*—Nearly allied to the preceding; leaves 7″–3″ long, 3″–1″ broad.—Hab. Jamaica!, *Sw.*, *March*, *Wullschl.*, in the southern districts.

36. **U. baccifera,** *Gaud.* Shrubby or arborescent, often prickly; leaves oval or roundish, sinuate-dentate, glabrous or glabrescent; *cymes* lateral, many times *trichotomous;* ♀ flowers pedicellate; *achenium exceeding the baccate calyx.*—*Jacq. Schœnbr. t.* 387; *Desc. Fl.* 6. *t.* 433.—Urtica, *L.*, *Sw.!*—10′–12′ high, or lower; leaves 4″–12″ long.—Hab. Jamaica!, *Wils.*, *March;* Trinidad!, *Cr.;* [Cuba! and Central America! to Southern Brazil!].

** *Cymes contracted into branched or simple spikes; rhaphides on the upper leaf-side numerous, linear.*

37. **U. crassifolia,** *Wedd.!* Woody; *leaves* oval-roundish, bluntish, rounded at the base, crenate or subentire, *triplinerved,* long-petioled, glabrous or glabrescent beneath; ♂ flower-clusters in axillary, *branched spikes,* which are *exceeded by the petiole;* achenium . . . .—Leaves 10″–6″ long, 8″–5″ broad: petiole 5″–3″ long; ♀ unknown.—Hab. Dominica!, *Imr.*

38. **U. microcarpa,** *Wedd.!* Shrubby or arboreous; *leaves* elliptical-oblong, pointleted, bluntish at the top, rounded or cuneate at the base, crenulate or subentire, 3-*nerved,* glabrous or glabrescent beneath on the nerves; flower-clusters of both sexes in axillary *branched spikes which exceed the petiole;* achenium exceeding the calyx.—A low tree or shrub; leaves 4″–3″ long, 2″–1¼″ broad, membranaceous: petiole 12‴–6‴ long.—Hab. Jamaica!, *Macf.*, *Wils.*, *Al.*, in the central and northern hills.

39. **U. spicata,** *Wedd.!* Woody; *leaves* oblong or elliptical-oblong, bluntish at the pointed top, emarginate at the base, repand-entire, 3-*nerved,* glabrous: ♀ flower-clusters in axillary, subsessile, *simple spikes,* which are nearly *as long as the petiole;* achenium exceeding the calyx.—Leaves 5″–2″ long, 1½″–1″ broad, papery: petiole 8‴–4‴ long.—Hab. Jamaica!, *Dist.*

Subtribe 2. *PROCRIDEÆ.*—*Segments of* ♀ *calyx usually* 3. *Stigma penicillate.*—No stinging hairs. Herbs; leaves opposite in the West Indian species.

13. PILEA, *Lindl.*

Calyx ♂ 4(–2)-partite, ♀ 3(–2–4)-partite, with one segment larger and usually gibbous below the top.—Leaves *usually bearing rhaphides: one leaf (of the pair) often larger than the other: stipules axillary;* cymes *axillary.*

§ 1. *Leaves small, uninerved.*—Stem diffuse, flaccid.

40. **P. microphylla,** *Liebm.* Glabrous; *leaves obovate or roundish, quite entire,* uninerved: *rhaphides* on their upper side *mostly transverse,* linear; cymes subsessile, contracted, exceeded by the leaves, usually androgynous.—Stem many-branched, annual or suffrutescent, somewhat succulent; leaves unequal (in the pair): the smaller resembling the stipules. The different forms of this variable species look like distinct species, but their characters are of no value:—

α. Leaves minute (1‴–2½‴ long), obovate, with a bluntish point, smooth beneath: all rhaphides parallel, transverse, or the marginal ones arcuate.—*Sl. t.* 93. *f.* 2.—Parietaria, *L.* Urtica, *Sw.!* Pilea muscosa, *Lindl.*

β. *trianthemoides,* Lindl. Leaves larger (4‴–8‴ long), obovate, rounded at the top, somewhat punctate beneath: rhaphides parallel, transverse, or mixed with several oblique ones.—Urtica, *Sw.!*

γ. *succulenta.* Leaves orbicular (1½‴–2½‴ diam.), rounded or shortly cuneate at the shortly petioled base, foveolate beneath, deciduous: transverse and oblique rhaphides usually mixed.—Urtica trianthemoides, var., *Sw. Herb.*—Stem suffrutescent, succulent. Allied to this is *U. herniarioides,* Sw.!, a Haiti form, with an annual, filiform stem.

HAB. Jamaica! to Trinidad!, all collect., very common on rocks, and in waste or moist places: α in all islands; β was sent from Antigua!, *Wullschl.*; γ from Jamaica!, *Wils.*, both from Haiti!; [Cuba! and Mexico! to Brazil and Peru!].

41. **P. lucida,** *Bl.* Glabrous or glabrescent; *leaves cuneate or lanceolate,* uninerved, heteromorphous, *the larger serrate* (or pinnatifid), the smaller usually entire: *rhaphides* on both sides *oblique,* linear; cymes minute, contracted, peduncled, mostly androgynous: the peduncle nearly as long as the leaf (sometimes reduced).—A variable, branched, delicate, though suffrutescent herb, the forms of which pass into each other, though looking peculiar in single specimens.

α. Leaves cuneate, subsessile, the larger (3‴–4‴ long) bijugal-pinnatifid, with blunt lobes, the smaller (1‴–2‴ long) usually quite entire.—Urtica lucida, *Sw.!*

β. cuneifolia, Wedd. Leaves cuneate or obovate, blunt, tapering into the petiole, the larger (8‴–3‴ long) with a few serratures towards the top, the smaller (3‴–1‴ long) quite entire.—Urtica cuneifolia, *Sw.!*

γ. serrulata, Wedd. Leaves lanceolate, tapering gradually into the subsessile or petioled base, pointed or bluntish at the top, serrate beyond the middle (the larger 8‴–6‴, the smaller 6‴–2‴ long).—Urtica serrulata, *Sw.!* Pilea cubensis, *Wedd.!*

HAB. Jamaica!, all collect., uncommon on rocks and in waste places; [Cuba!].

§ 2. *Leaves* 3(–5)*-nerved or triplinerved.*

* *Leaves quite entire; cymes exceeded by the leaves. Stem straight, simple or few-branched, somewhat contracted at the nodes.*

42. **P. nudicaulis,** *Wedd.* Glabrous; *leaves linear-lanceolate or lanceolate,* acuminate, 3-nerved, quite entire, shortly petioled: *rhaphides on both sides divaricated, linear;* cymes diœcious, ♂ peduncled, contracted, with the peduncle 2–3 times exceeded by the leaf, ♀ interruptedly spiciform, subsessile, as long as or exceeding the petiole.—Urtica, *Sw.!*—Stem erect, 1′–2′ high; leaves 1½″–2½″ long.

α. Leaves linear-lanceolate, long-acuminate (3‴–6‴ broad).

β. lanceolata, Wedd. Leaves lanceolate (or the inferior ovate), pointed (6‴ broad).—Urtica lanceolata, *Poir.*

HAB. Jamaica!, *Sw.* (α, β), *Macf.*, on limestone rocks; [Cuba!, Haiti].

43. **P. Parietaria,** *Bl.* Branches glabrous; *leaves elliptical-lanceolate or elliptical,* shortly acuminate, cuneate or rounded at the base, 3-nerved, quite entire, or repand, usually glabrous above, subciliate, pubescent beneath or glabrate on the nerves: (one of the pair usually smaller, ovate): *rhaphides* on the upper side punctiform, *none linear;* cymes diœcious, ♂ contracted, minute, shortly peduncled, usually exceeded by the slender petiole, ♀ divaricate-expanded, subsessile, as long as the petiole.—Urtica, *L., Sw.! Obs.* P. Rivœriæ, *Wedd.!*—Stem 2′–8′ high, suffrutescent, branched below; larger leaves 2″–1″ long, 8‴–5‴ broad, smaller usually 6‴–4‴ long, pointed: petiole 6‴–4‴ long.—HAB. Jamaica!, *Pd., Bancr., Al., Wils.*, common in the mountains, alt. 3000′–4000′; [Martinique].

44. **P. ciliaris,** *Wedd.!* Stem glabrous; *leaves ovate or ovate-lanceolate,* acuminate, 3-nerved, quite entire, usually hairy above, ciliate, pubescent beneath, or glabrate on the nerves: *rhaphides on the under side linear;* cymes androgynous or unisexual, expanded, peduncled, nearly as long as the elongated petiole.—*Plum. Ed. Burm. t.* 120. *f.* 2.—Leaves 5″–1½″ long, 2″–¾″ broad: petiole 24‴–8‴ long.—HAB. Jamaica!, *Macf., Wils.*, in moist places; Dominica!, *Imr.*; [Portorico!, Martinique!, *Sieb. Mart.* 210, Venezuela!].

** *Leaves serrate, glabrous. Stem straight, simple or few-branched below.*

† *Cymes shortly peduncled, contracted.*

45. **P. reticulata,** *Wedd.!* (*exclus. syn. Sw.*). Straight, glabrous; *leaves* lanceolate-oblong, pointed, minutely rounded at the base, triplinerved, *remotely serrate only towards the top: serratures truncate; rhaphides linear on both sides;* cymes diœcious, contracted, twice exceeded by the slender petiole, ♂ corymbiform-branched, ♀ spiciform: peduncles in both sexes very short.—Stem 1′ high; leaves 3″–2″ long, 12‴–8‴ broad: petiole 8‴–4‴ long.—HAB. Jamaica!, *Pd., Wullschl.*, Westmoreland to Manchester.

46. **P. sessiliflora,** *Wedd.!* Straight, glabrous: *leaves* elliptical, pointed, cuneate at the base, 3-nerved (or triplinerved), *serrate beyond the middle: serratures pointed: rhaphides linear on the upper side* (obsolete or none beneath); cymes monœcious, unisexual, contracted, 4 times exceeded by the slender petiole, subsessile, corymbiform-branched, ♂ superior, ♀ inferior.—Urtica, *Sw.!* U. variegata, *Spreng.* Pilea, *Seem.!*—Nearly allied to the preceding; leaves 3″–2″ long, 18‴–10‴ broad: petiole 12‴–6‴ long, dilated at the top.—Hab. Jamaica!, *Sw., Macf., Wils., Wullschl.*, in the central and western districts; [Darien!].

†† *Cymes exserted, lax, long-peduncled.*

47. **P. semidentata,** *Wedd.* Straight, glabrous; *leaves* lanceolate or elliptical-lanceolate (the inferior smaller, elliptical), acuminate, triplinerved, *minutely repand-serrulate beyond the middle: rhaphides linear on the upper side; cymes diœcious, expanded,* nearly as long as the leaf, long-peduncled, ♂ few-clustered, ♀ many-branched, branches filiform.—Urtica, *Poir.*—Stem 1′ high, somewhat succulent; leaves 3″–4″ long, 8‴–20‴ broad, callous on the margin; lateral nerves disappearing in the arches towards the middle of the lamina: petiole 4‴–6‴ long.—Hab. Antigua!, *Wullschl.*; [Portorico, S. Thomas].

48. **P. elegans,** *Wedd.* Straight, glabrous; *leaves* ovate-oblong, pointleted, or shortly acuminate, triplinerved, *repand-serrate with the base entire:* serratures bluntish, spreading: *rhaphides linear, on the upper side; cymes monœcious,* unisexual, nearly as long as the leaf, long-peduncled, ♂ *contracted,* undivided, ♀ *expanded,* many-branched.—P. Goudotiana, *Wedd.!*—Stem 1′ high; leaves 3″–4″ long, 1½″–1″ broad, rounded or minutely subcordate at the base: lateral nerves disappearing in the arches above the middle of the lamina: petiole 4‴–6‴ long, twice as long as the oblong, deciduous stipules.—Hab. Dominica!, *Imr.*; [Guadeloupe to Venezuela! and New Granada!].

49. **P. densiflora,** *Kth., Wedd.!* Straight, glabrous (or glabrescent on the leaves beneath); *leaves* oblong-lanceolate, lanceolate or elliptical, acuminate, 3–5-nerved (or shortly triplinerved), *coarsely crenate-serrate with the base entire:* serratures pointed: *rhaphides linear usually on both sides; cymes diœcious,* expanded, as long as or exceeding the leaf, long-peduncled (or the ♂ sometimes contracted and equalling the petiole), many-branched in both sexes: *the branches forming interrupted spikes.*—Stem 3′–4′ high, suffrutescent; leaves 5″–2″ long, 24‴–8‴ broad, rounded or minutely cordate at the base: lateral nerves (or first pair of them) disappearing in the arches near the top of the lamina: petiole 8‴–6‴ (12‴–2‴) long: stipules oblong-lanceolate, 4‴ long; ♂ flower-clusters diam. of a pea, ♀ much smaller.—Hab. Jamaica!, *Al., Wils., March, Wullschl.*, common.

50. **P. grandis,** *Wedd.!* Straight, glabrous; *leaves* large, ovate, pointleted, usually minutely cordate at the base, triplinerved or 3-nerved, *coarsely crenate with the base entire:* serratures rounded or bluntish: *rhaphides* small, *linear, on both sides;* cymes diœcious, (rarely monœcious, unisexual,) expanded, exceeding the petiole and exceeded by the leaf, long-peduncled, many-branched in both sexes: *the branches forming nearly contiguous spikes.*—*Sl. t.* 83. *f.* 2.—Urtica grandifolia, *L., ex cit. Sl.* (*non Sw.*).—Stem several feet high, suffrutescent; leaves 6″ long, 3″ broad: lateral nerves as in the preceding, veins straightish, prominulous; petioles 2″ long, nearly as long as the internodes; stipules large, ovate-oblong, 10‴ long; ♂ spikes oblong.—Hab. Jamaica!, *Macf., Al., Pd., March,* in moist woods.

*** *Leaves serrate, hispid, unequal. Stem branched, suffrutescent.*

51. **P. rufa,** *Wedd.!* *Branches rusty-hispid;* leaves elliptical or elliptical-lanceolate, pointed, sharply serrate, hispid with scattered hairs, triplinerved: one of the pair usually roundish, subsessile: rhaphides linear on the upper side and much smaller ones beneath: stipules roundish, spreading, persistent; *cymes androgynous,* contracted, spiciform, shortly exceeding the stipules.—Urtica, *Sw.!*—Stem ascending, 1′ high; larger leaves 18‴–8‴ long, 8‴–4‴ bread, smaller 4‴–2‴ diam.: petiole 4‴–1‴ long: stipules 2‴ diam., rusty-membranaceous.—Hab. Jamaica!, *Sw., Macf.*, in rocky hills.

**** *Leaves serrate. Stem flaccid, usually creeping, with the herbaceous branches, or upper part, low, ascending.*

† *Cymes contracted, subsessile.*

52. **P. radicans,** *Wedd.* *Scandent* and radicant, *glabrous ; leaves* ovate or ovate-oblong, bluntish, cuneate at the entire base, *obtusely serrate beyond* it, triplinerved : serratures 4–3 on each margin : rhaphides linear on the upper side, punctiform or obsolete beneath ; cymes androgynous, contracted, few-flowered, subsessile.—Urtica, *Sw. !*—Stem elongated, many-branched : branches short ; leaves 6‴–4‴ long, 3‴–2‴ broad : petiole 1‴ long : stipules minute.—HAB. Jamaica !, *Sw.*, *Macf.*, *Wils.*, in high, moist forests, on trees.

53. **P. Swartzii,** *Wedd.* Stem and branches ascending, glabrescent ; *leaves* ovate, pointed, or bluntish, *dentate-serrate with the cuneate base entire*, 3-nerved or triplinerved, *ciliate* and with scattered hairs on the nerves : rhaphides inconspicuous, at length linear, on both sides, or punctiform above : petiole slender, pubescent ; cymes androgynous, contracted, forming a single cluster, subsessile.—Urtica ciliata, *Sw. !* Pilea, *Bl.*—Stem elongated, radicant along the creeping base ; leaves 8‴–18‴ long, 4‴–12‴ broad : petiole 4‴–8‴ long : stipules small, persistent.—HAB. Jamaica !, *Sw.*, *Wullschl.*, in rocky woods ; [Cuba !].

54. **P. nummularifolia,** *Wedd.* *Hairy ;* stem creeping, radicant, elongated ; *leaves* orbicular or oval-orbicular, *crenate beyond the middle*, 3-nerved : *rhaphides* large, *linear, on both sides ;* cymes in the uppermost axils, androgynous, contracted into a single cluster, subsessile.—*Sl. t.* 131. *f.* 4 ; *Act. Holm.* 1787. *t.* 1. *f.* 2.—Urtica, *Sw. !*—Ascending branches 3″–1″ long ; leaves 6‴–4‴ long, 6‴–3‴ broad : petiole 4‴–2‴, stipules 1‴ long. —HAB. Jamaica !, *Sw.*, in mountain woods, among stones.

55. **P. depressa,** *Bl.* *Glabrous* (or glabrescent] ; stem creeping, radicant, short ; *leaves* cuneate-orbicular, *crenate beyond the middle*, 3-nerved : *rhaphides linear on the under* and near the margin of the upper *side*, minute and chiefly punctiform ones within the same margin ; "cymes in the uppermost axil, diœcious, contracted, sessile."—Urtica, *Sw. !* —Stem 3″–4″ long ; leaves 4‴ diam. : petiole 1‴ : stipules persistent, spreading, oblong, 1‴ long.—HAB. Jamaica !, *Sw.*, rare, among grasses ; [Haiti].

†† *Cymes contracted or few-branched, peduncled.*

56. **P. rotundata,** *Gr.* (*n. sp.*). *Stem* short, simple, ascending, *glabrous, leaves ovate-roundish, obtusely pauciserrate beyond the middle*, 3-nerved, *glabrous beneath :* rhaphides linear, conspicuous chiefly on the upper side, crowded near the margin ; *cymes* in the uppermost axils, *unisexual*, contracted, peduncled : peduncle equalling the petiole or the leaf.—Habit of a small *Peperomia.* Stem creeping below, radicant from the inferior, usually aphyllous nodes, 4″–1″ long, delicate, leafy at the ascending summit ; leaves 8‴–2½‴ diam., broadly rounded, subtruncate at the base and somewhat contracted into the petiole, delicately membranaceous, glaucous beneath, with a few pellucid hairs on the upper side, or quite glabrous : serratures about 3 on each margin, less deep than in *P. repens*, sometimes obsolete : lateral nerves disappearing in the middle of the lamina : petiole 6‴–1‴ long : stipules ½‴ diam., roundish, persistent ; ♂ cymes glomeruliform, 2‴ diam., hairy, ♀ unknown.—HAB. Jamaica !, *Wils.*, *Wullschl.*

57. **P. repens,** *Wedd. !* *Stem* creeping, radicant, *hairy* (or glabrescent) ; *leaves ovate-roundish, crenate-serrate, with the base entire*, 3-nerved, *hairy* chiefly on the nerves *beneath* (rarely glabrescent) : rhaphides linear, conspicuous chiefly on the upper side ; *cymes androgynous* (rarely unisexual), contracted or few-branched, peduncled : peduncle equalling the petiole or the leaf.—*Act. Holm.* 1787, *t.* 1. *f.* 1.—Urtica, *Sw. !* P. nummularifolia, *Gr. Carib.* (*non Wedd.*).—Stem 6″–12″ long, often densely hairy ; leaves 10‴–6‴ long, 8‴–4‴ broad, often as long as broad : lateral nerves disappearing in the arches beyond the middle of the lamina : petiole 4‴–1‴ long : stipules broadly oblong, 1‴ long, spreading, persistent.—HAB. Jamaica !, *Bancr.*, *Wullschl.* ; Trinidad !, *Lockh.* ; [Cuba !, Haiti !, Guadeloupe !].

58. **P. inæqualis,** *Wedd.* *Stem* short, ascending, *hairy above*, or glabrescent ; *leaves ovate, pointed, coarsely crenate-serrate, with the base entire*, 3-nerved, *glabrous* (or with a few pellucid hairs) : rhaphides linear, on both sides ; *cymes* in the uppermost axils, *androgynous*, few-branched (or contracted) : peduncle equalling the leaf.—*Wedd. Monogr. Urt. t.*

6. *f.* 1–6.—Stem of *P. rotundata*, but usually larger, the ascending part 6″–2″ long; leaves 1½″–½″ long, 15‴–4‴ broad: petiole 10‴–2‴ long: stipules ovate, blunt, 1‴ long, persistent.—Hab. Jamaica!, *Al.*, *Wullschl.*, on river-banks; Trinidad!, *Cr.*; [Portorico, S. Thomas].

59. **P. laxa,** *Wedd.!* Glabrescent; stem ascending, branched; *leaves ovate, pointed* or pointleted, *coarsely and acutely serrate, with the base entire*, 3-nerved: rhaphides linear, on the upper side; *cymes diœcious, ♂ contracted, ♀ few-branched, expanded*: peduncles long, equalling the petiole or the leaf.—Urtica, *Sw.!*—Stem 5′–½′ high, often branched from the base, usually glabrous; leaves 3″–½″ long, 24‴–3‴ broad: petiole 12‴–2‴ long: stipules broadly oblong, 2‴–1‴ long, persistent.—Hab. Jamaica!, *Pd.*, *Wils.*, *March*, in moist woods; [Haiti!].

††† *Cymes expanded, peduncled.*

60. **P. ovalis,** *Gr.* (*n. sp.*). Stem hairy, short, ascending; *leaves oval*, rounded at the top, obtusely serrate with the base entire, 3–5-nerved, glabrous beneath, with scattered, pellucid hairs on the upper side: rhaphides linear, on the under side; *cymes* androgynous, expanded, *shortly peduncled*, exceeding the petiole.—Stem creeping, and radicant at the base, 4″–6″ high, aphyllous below, leafy at the top; leaves membranaceous, 16‴–12‴ long, 12‴–6‴ broad, ciliate, devoid of rhaphides on the upper, hairy side: petiole 4‴–2‴ long: stipules broadly oblong, blunt, 2‴ long, persistent; cymes pyramidal, 12‴–6‴ long: peduncle nearly as long as the petiole; achenium minute, obliquely ovate-roundish.—Hab. Trinidad!, *Cr.*, near Gaspari.

61. **P. pubescens,** *Liebm.*, *Wedd.!* *Hairy* (or nearly glabrate); branches ascending from a creeping stem; *leaves* large, *ovate*, pointed, or bluntish at the top, coarsely serrate, with the base entire, 3-nerved: rhaphides small, linear, on both sides; *cymes* androgynous (or unisexual), corymbiform-paniculate, *long-peduncled*, usually equalling the leaves.—*Mart. Fl. Bras.* 12. *t.* 68.—Urtica grandifolia, *Sw.!* U. involucrata, *Sims.* Pilea diffusa, *Gr. Carib.* (*non Wedd.*). P. fuscata, *Liebm.* P. acuminata, *Liebm.!* P. grossecrenata, *Miq.* —Herbaceous branches 8″–12″ long; leaves 3″–2″ long, subcordate or broadly cuneate at the base: petiole usually 1″ long: stipules 4‴–2‴ long, subcordate-ovate, spreading, persistent; cymes often 3″ diam.—Hab. Jamaica!, *Sw.*, *Dist.*; Dominica!, *Imr.*; S. Lucia!, *Anders.*; [Mexico! to Brazil!].

62. **P. diffusa,** *Wedd.* Stem suffrutescent, diffuse, *glabrous; leaves ovate*, pointed or bluntish, serrate with the base entire, 3-nerved, glabrescent or pubescent on the nerves beneath: rhaphides linear, on both sides; *cymes* androgynous, expanded, *umbelliform*, peduncled: *peduncle* usually *as long as the leaf.*—Urtica, *Sw.!*—This is distinguished from the preceding by the woody stem, smaller leaves, and chiefly by the small cymes; leaves 12‴–8‴ long: petiole 4‴ long: stipules ovate, blunt, contiguous at the base, persistent, 1½‴ long; cymes about 4‴ diam.—Hab. Jamaica!, *Sw.*, *Wullschl.*, in rocky situations.

†††† *Cymes expanded, sessile.*

63. **P. hyalina,** *Fzl.* Stem glabrous, erect; leaves ovate, or ovate-roundish, pointed, coarsely serrate, with the base entire, 3-nerved, glabrous, or with a few pellucid hairs on the upper side: rhaphides linear on both sides; *cymes* androgynous, expanded, *forming sessile verticillastra*, exceeded by the petiole; achenium minute, ovate, blunt.—*Mart. Fl. Bras.* 12. *t.* 69.—Urtica pumila, *Euphras.!* (*non L.*).—Nearly allied to *P. pumila*, As. Gr., of the United States, the achenium of which however is much longer and conical. Root fibrous: no creeping base; stem 12″–4″ long; leaves 1″ long, often shorter than the petiole: stipules obsolete; cymes many-branched, nearly from all axils; achenium ¼‴ long.—Hab. S. Kitts!, *Euphrasen*; [Mexico to Brazil!].

Subtribe 3. *BŒHMERIEÆ.—Calyx of ♀ contracted at the 2–4-dentate (or entire) top, or none.*—No stinging hairs. Stem usually woody.

14. BŒHMERIA, *Jacq.*

Calyx ♂ 4(–3–5)-partite, ♀ tubular, 2–4-dentate. *Stigma* filiform, persistent, hairy on

one side.—Leaves 3-*nerved: stipules axillary;* flower-clusters *in interrupted spikes or axillary, exinvolucrate.*

64. **B. caudata,** *Sw.* *Leaves opposite,* large, ovate (or lanceolate), pointleted or pointed, crenate-serrate, *scabrous above, pubescent beneath:* stipules distinct; *spikes* axillary, simple, elongated, flexuose, *nodding,* as long as or exceeding the leaves, *diœcious;* ♀ calyx at length compressed, marginate.—*Mart. Fl. Bras.* 12. *t.* 64, 66.—A shrub, 3′–15′ high; leaves 10″–6″ long, long-petioled.—HAB. Jamaica!, all coll., in mountain-valleys; [Mexico! to New Granada! and Brazil!].

65. **B. cylindrica,** *W.* *Leaves opposite* (rarely alternate), ovate or oblong-lanceolate, acuminate, crenate-serrate, *glabrescent:* stipules distinct; *spikes* axillary, simple (rarely branched), often leafy at the top, *spreading-erect,* exceeded by the leaves, usually *androgynous:* the clusters unisexual; ♀ calyx compressed, thickly margined.—*Sl. t.* 82. *f.* 2; *Wedd. Monogr. Urt. t.* 11. *f.* 18.—Urtica, *L.* U. reticulata, *Sw.!:* a broad-leaved form with branched spikes. B. litoralis, *Sw.!:* a narrow-leaved form.—Stem 2′–3′ high, suffrutescent or herbaceous; leaves 3″–6″ long.—HAB. Jamaica!, *M'Nab, Al., March;* Trinidad!, *Cr.;* [Canada! to Texas!; Cuba!, New Granada!, Brazil!, Uruguay!].

66. **B. ramiflora,** *Jacq.* *Leaves alternate,* obliquely ovate-oblong or lanceolate, acuminate, often pointleted, serrate, hairy or nearly glabrescent, alternately of unequal growth: *the two lateral nerves of unequal length:* stipules elongated, distinct; flower-clusters lateral or axillary, unisexual, monœcious, forming interrupted spikes below the leafy top of the branchlets; ♂ calyx 3-androus, ♀ at length biconvex.—*Jacq. Amer. Pict. t.* 236.—A shrub, 6′–8′ high; larger leaves 3″–12″, smaller 1″–5″ long, the latter shorter petioled.—HAB. Jamaica!, all coll.; Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.*

15. PHENAX, *Wedd.*

Calyx ♂ 3–5-lobed, ♀ none. *Stigma* filiform, at length deciduous.—Leaves *alternate,* 3(–5)-*nerved: stipules lateral;* flower-clusters *axillary, surrounded by bracts.*

67. **Ph. urticifolius,** *Wedd.!* Pubescent; leaves ovate, pointed, dentate-serrate, usually rugose, punctate on the upper side; flower-clusters androgynous, globose, exceeded by the subulate stipules: bracts ovate; ♂ *calyx* 4-lobed, 4-androus, campanulate, *devoid of a transverse plica.—Wedd. Monogr. Urt. t.* 16 *A.*—Bœhmeria, *Pers.* B. hirta, *Sw.* Ph. lævigatus, *Wedd.* Ph. haitiensis, *Wedd.*—A shrub or suffrutescent herb, 2′–8′ high; leaves 4″–2″ long; flower-clusters 4‴ diam.—HAB. Jamaica!, *Pd., Wils.,* in mountain-woods at 4000′ alt.; [Mexico!, Venezuela!, New Granada! to Bolivia].

68. **Ph. vulgaris,** *Wedd.* Hispidulous with scattered hairs, or glabrescent; leaves ovate-lanceolate or ovate, acuminate, serrate with the base entire, membranaceous, subciliate: flower-clusters androgynous, small, equalling the subulate stipules: exterior bracts numerous, oval or roundish, ciliate, ♀ ones sheathing; ♂ *calyx* 5–4-lobed, 5–4-androus: *lobes inflexed with a transverse plica;* achenium ovate, pointed, muricate.—Parietaria Sonneratii, *Poir.* Gesnouinia bœhmerioides, *Miq.*—Stem 3′–4′ high, herbaceous or suffrutescent; leaves 3″–1½″ long; flower-clusters 2‴ diam.—HAB. Trinidad!, *Cr.;* [Martinique, Brazil].

16. ROUSSELIA, *Gaud.*

Flowers ♂ cymose, exinvolucrate, ♀ in 2-flowered, 2-bracteate heads. *Calyx* ♂ 4-partite, ♀ ventricose, 2–4-dentate, at length compressed, margined, accrescent to the bract. *Stigma* filiform, deciduous.—A diffuse, creeping herb; leaves *alternate, quite entire: stipules lateral;* inflorescence *axillary, monœcious:* ♀ *bracts quite entire, bearing uncinate hairs.*

69. **R. lappulacea,** *Gaud.—Wedd. Monogr. Urt. t.* 18 *D.*—Urtica, *Sw.!*—Leaves ovate, pointed, 8‴–3‴ long, puberulous or glabrate; ♂ cymes shortly peduncled, ♀ heads in the uppermost axils, sessile.—HAB. Jamaica!, *Sw., Al., Wils., Wullschl.,* common among stones; Dominica!, *Imr.;* [Haiti, S. Thomas].

Cannabis sativa, L., has been introduced into Jamaica.

LVII. POLYGONEÆ.

Flowers apetalous : calyx usually corolline. *Stamens* definite, perigynous. *Ovary* reduced, 1-celled : ovule single, basilar, atropous ; styles 2–3 (–4). *Endosperm* amylaceous.—Leaves *entire : stipular sheaths (ochreæ) above the swollen joints of the stem.*

The sap is often acid : a colonial substitute for the Sorrel is the cultivated *Rumex vesicarius*, L. (Desc. Fl. 7. t. 494). The American Kino is a powerful astringent, prepared from *Coccoloba uvifera.* Several *Coccoloba* species are timber trees, esteemed for the toughness of their wood : the fruit in the same genus, called Seaside Grape, is eatable, but astringent.

1. POLYGONUM, *L.*

Calyx 5(–3)-partite, marcescent. *Stamens* 8 (7–4). *Styles* 3–2. *Achenium* 3-angular or biconvex. *Embryo* curved around one side of the albumen.—Herbs ; pedicels *jointed ; racemes spiciform in the West Indian species.*

1. **P. acre,** *Kth.* Stem glabrous ; *leaves* lanceolate, acuminate, ciliolate, *pellucid-dotted :* ochreæ tubular, ciliate ; racemes erect, slender, interrupted below ; *calyx dotted with glands ;* stamens 8 ; styles 3 ; achenium 3-angular, shining.—*Mart. Fl. Bras.* 14. *t.* 5.—Flowers pale : pedicels at length exserted.—Hab. Jamaica !, *Dist., March, Wullschl.*, in wet places ; Dominica !, Trinidad !, *Cr. ;* [Pennsylvania ! to Buenos Ayres !].

2. **P. acuminatum,** *Kth.* Stem pubescent, glabrate ; leaves lanceolate or oblong-lanceolate, acuminate, tapering at the base, inserted above the base of the tubular, strigillose *ochrea,* which is *long-ciliate ;* racemes erect, slender ; *calyx eglandular ;* stamens 6 (8–5) ; styles 2, cohering below ; achenium biconvex, shining.—*Mart. l. c. t.* 4.—P. barbatum, *Mey. ! Esseq.* (*non L.*).—Leaves elongated ; bristles of the ochreæ appressed : its fringes stout, 6‴–8‴ long.—Hab. Jamaica !, *Pd., March,* in lagoons ; Trinidad !, *Pd., Cr. ;* [Mexico ! to Buenos Ayres ! ; Galapagos !].

3. **P. glabrum,** *W.* Perfectly *glabrous ;* leaves lanceolate or oblong-lanceolate, acuminate, petioled : the petiole inserted above the base of the tubular *ochrea,* which is *devoid of fringes ;* racemes erect, slender ; *calyx eglandular ;* stamens 6–8 ; styles 2–3 ; achenium biconvex or 3-angular, shining.—*Wight, Ic.* 5. *t.* 1799.—Flowers rose-coloured.—Hab. Bahamas !, *Swains. ;* Jamaica !, *Macf., Dist. ;* [Louisiana ! to Brazil ! and Uruguay ; Pacific Islands !, East Indies !, China !].

2. COCCOLOBA, *Jacq.*

Calyx 5-fid or 5-partite, at length fleshy and accrescent to the achenium. *Stamens* 8 (–12). *Styles* 3. *Embryo* axile, straight, enclosed within the ruminate endosperm : cotyledons foliaceous.—Woody plants ; flowers *racemose or spicate : pedicels jointed.*

Sect. 1. Eucoccoloba.—*Achenium wholly enclosed within the calyx.*—Leaves leathery, inserted into the back of the ochrea.

§ 1. *Flowers pedicellate : pedicels exceeding the bracts, jointed below the top.*

* *Calyx* 5-*partite ; ochreæ spreading.*

4. **C. uvifera,** *Jacq. Leaves cordate-orbicular,* often broader than long, *glabrous,* polished, with the primary veins prominulous on both sides : ochrea glabrate ; racemes simple, filiform, nodding : pedicels fasciculate, jointed about the middle, longer than the flower ; berry obovoid.—*Sl. t.* 220. *f.* 3–5 ; *Jacq. Amer. Pict. t.* 110 ; *Desc. Fl.* 2. *t.* 77.—A branched, middle-sized or large tree ; leaves 6″–3″ long, 7″–3″ broad, shortly petioled : tertiary veins not prominulous ; racemes 6″–18″ long ; calyx 1½‴ diam., whitish ; berry dark-blue, 8‴–6‴ long.—Hab. Bahamas !, *Swains. ;* Jamaica !, *Al.,* common on sandy shores ; Antigua !, *Wullschl. ;* S. Vincent !, *Guild. ;* Trinidad !, *Sieb. ;* [Florida to Guiana !].

5. **C. pubescens,** *L. Leaves cordate-orbicular,* subsessile, glabrescent and *rugose above from the immersed veins, rusty-pubescent beneath,* chiefly on the reticulated, prominu-

lous veins: ochreæ rusty-villous; racemes simple: pedicels fasciculate, longer than the flower; berry "ovoid-oblong."—*Bot. Mag. t.* 3166.—A high, few-branched tree; leaves with a lax network of veins, 2″–6″ diam.: petiole thick, 2‴–3‴ long, adnate to the spreading, short ochrea; flowers small, greenish.—HAB. Antigua!, *Wullschl.*, in mountain-woods; [French islands!, Guiana!].

6. **C. latifolia,** *Lam.* *Leaves roundish, glabrous: primary and secondary veins immersed above, prominulous beneath:* ochreæ split, rounded; *racemes compound:* pedicels about as long as the flower, jointed above the middle; berry "ovoid."—*Mart. Fl. Bras.* 14. *t.* 19.—A high tree; leaves 24″–8″ diam., shortly petioled: tertiary veins not prominulous; branches of the terminal panicle simple, spreading-erect; calyx 1‴, berry "3‴" long.—HAB. Trinidad!, *Lockh.*, in woods; [Guiana!].

** *Calyx 5-fid; ochreæ tubular.*

7. **C. leoganensis,** *Jacq.* *Leaves roundish* or ovate-roundish, blunt or obtusate, cordate or rounded at the base, glabrous, *polished on both sides* with the primary veins slightly prominulous beneath; racemes simple, virgate: *pedicels* single or ternate, *jointed below the top,* about as long as the flower, calyx-tube turbinate; stamens exserted; berry . . . .—*Jacq. Amer. Pict. t.* 260. *f.* 30: a leaf.—C. flavescens, *Jacq.* (*ib. t.* 112: with globose purple berries), is probably a narrow-leaved form of the same.—A shrub; leaves 5″–2″ diam.: petiole 4‴ long: ochreæ tubular, deciduous; racemes peduncled, 6″–4″ long: pedicels unequal, exceeding the bracts; calyx 1½‴ diam., 5-fid to the middle.—HAB. Jamaica!, *Pd.*, *March*, *Wils.*, on rocks near the sea; [Haiti].

8. **C. tenuifolia,** *L.* (*ex syn. P. Br.*), *Lam.* *Leaves small, elliptical, pointed* (rarely bluntish), rounded or subacute at the base, glabrous: veins reticulated, slightly prominulous, chiefly beneath; racemes simple, or 2–3-partite, erect: *pedicels* single, *jointed below the top,* somewhat shorter than the flower; calyx-tube ovato-conical; stamens exserted; berry "3-angular."—*Br. Jam. t.* 14. *f.* 3.—Linnæus's observation in Amœn. Acad. does not agree with Browne's plant, but may partly be referred to *C. nivea*, Jacq. Allied to *C. cubensis*, Meisn.!, which has however smaller flowers. A low tree; leaves 3″–2″ long, 20‴–12‴ broad: petiole 8‴–4‴ long: ochreæ 6‴–4‴ long, veinless, somewhat lax, deciduous; racemes shortly peduncled, 4″–2″ long: pedicels 1½‴ long, much exserted, horizontal; calyx 2‴ long: tube longer than the lobes.—HAB. Jamaica!, *Al.*, *March*, in the hilly, interior districts.

§ 2. *Flowers very shortly pedicellate: pedicels equalling the minute bracts, jointed at the base; calyx 5-fid; ochreæ tubular, loose.*

9. **C. Plumieri,** *Gr.* Leaves broadly ovate-oblong, bluntish, usually cordate at the base, glabrous: primary veins prominulous, chiefly beneath; *racemes compound at the base:* branches elongated, lax, spreading, or nodding: flowers single, somewhat distant; *pedicels jointed at the base; berry* large, *ovate-conical.*—*Plum. Ed. Burm. t.* 146. *f.* 1, quoted by Swartz, but an uncertain synonym from its spikes being simple.—C. excoriata, *Sw.* (*non Jacq.*).—Allied to *C. paniculata*, Meisn., but leaves larger and perfectly glabrous. An arborescent shrub: bark whitish, excoriated; leaves 12″–6″ long, 8″–4″ broad: secondary veins delicate: petiole 1½″–1″ long; ochreæ 6‴ long, veinless, truncate, deciduous; panicle subsessile, 3–9-partite, fastigiate: branches 6″–10″ long, virgate: pedicels at length scarcely ½‴ long, equalling the truncate bracts; calyx-tube campanulate, a little shorter than the rounded lobes: diam. of the limb 3‴–4‴; stamens exserted: anthers ovoid-oblong; berry sulcate, rounded at the base, 8‴–6‴ long, 4‴–3‴ diam.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, in mountain-woods.

§ 3. *Flowers pedicellate: pedicels jointed at the top.*

* *Calyx 5-fid; pedicels exceeding the minute bracts.*

10. **C. Zebra,** *Gr.* (*n. sp.*). *Leaves* broad-elliptical, bluntish or apiculate, rounded or minutely emarginate at the base, glabrous, *polished above:* primary veins prominulous beneath; racemes simple, lax: *pedicels jointed at the top;* calyx-tube ovate-semiglobose; stamens subincluded; *berry* large, *ovate-conical.*—Allied to *C. laurifolia*, Jacq. A very large timber-tree: wood variegated; leaves 8″–5″ long, 5″–3″ broad, somewhat shining:

petiole 12‴–8‴ long: ochreæ appressed, striated, 6‴–8‴ long; racemes subsessile, 4″–2½″ long: pedicels single, distant, spreading, or cernuous, 2‴ long; calyx-tube 2‴ diam., longer than the rounded lobes, puberulous; stamens short; styles exserted; berry 8‴ long, 6′′–4‴ diam.: achenium fibrous: interior testa-projections numerous.—HAB. Jamaica!, *Wils.*, *March*, in woods.

11. **C. diversifolia,** *Jacq.* *Leaves* ovate-oblong or oblong-lanceolate, *acuminate*, cordate or roundish at the base (rarely ovate or bluntish), glabrous: *veins densely reticulated, prominulous on both sides;* racemes simple, elongated, ascending: *pedicels jointed at the top*, about as long as the flower; calyx-tube ovate, often pubescent; stamens subincluded; *berry ellipsoidal or subglobose*, striated, obtusate with the bluntly conical calyx-limb.—*Jacq. Amer. Pict. t.* 113: the berry does however not agree.—C. punctata, *Lun.* (*non Jacq.*).—A shrub, about 15′ high, often rusty-pubescent on the branchlets, racemes, and ochreæ; leaves variable, 12″–5″ long, 4″–2″ broad: petiole 12‴–6‴ long: ochreæ appressed; racemes 12″–4″ long: pedicels single or geminate, 2‴–1‴ long; calyx white, 5-fid to the middle, 2‴ long; berry dark-red, keeled by prominulous ribs, 4‴ long, 3‴–2‴ diam.: limb 2–3 times shorter than the accrescent portion.—Hab. Jamaica!, *Al.*, *March*, *Wullschl.*; Antigua!, *Wullschl.*; [Haiti, French islands!].

** *Calyx* 5-*partite; pedicels not exserted beyond the bracts.*

12. **C. crescentiifolia,** *Cham.* *Leaves* large, obovate-oblong or elliptical-oblong, bluntish, tapering towards the base, glabrous, *polished: primary veins immersed above, prominulous beneath:* ochreæ spreading; racemes compound at the base, or simple: pedicels ternate or single, as long as the bracts; berry "ovoid-globose."—*Mart. Fl. Bras.* 14. *t.* 8: racemes less compound than in our specimen.—Leaves 10″–6″ long, 4″–3″ broad: petiole 1½″–1″ long.—HAB. Trinidad!, *Lockh.*, common in woods; [Brazil].

13. **C. guianensis,** *Meisn.* *Leaves* broadly ovate, bluntish, or elliptical and oblong-lanceolate, subcordate or rounded at the base, glabrous: *veins reticulated and prominulous on both sides:* ochreæ spreading; racemes simple: pedicels geminate or single, nearly as long as the bracts; berry ovate-conical, pointed.—*Mart. Fl. Bras.* 14. *t.* 10.—Leaves 5″–3″ long, 3″–2″ broad: petiole 8‴–4‴ long; berry striated, 3‴ long, 2‴ diam.: upper portion gradually tapering into the limb.—HAB. Trinidad!, *Cr.*; [Guiana].

§ 4. *Flowers sessile, jointed with the rachis.*

14. **C. punctata,** *L.* Leaves ovate, elliptical, or oblong, glabrous: veins densely reticulated and prominulous on both sides: ochreæ tubular, entire; *spikes* simple, *virgate* (rarely compound): bracts 1(–3)-flowered, enclosing the base of the 5-partite calyx; *berry ovoid-globose, abruptly crowned* with the foliaceous calyx-limb.—*Jacq. Amer. Pict. t.* 114. —C. coronata, *Jacq.* C. microstachya, *W.* C. diversifolia, *Hook.!*—Very variable in the leaf-form (α, γ, and δ agreeing however perfectly in the fruit), so that several other West Indian *Coccolobæ* cannot be distinguished, as long as their fruit is unknown, viz. *C. barbadensis*, Jacq. *C. rotundifolia, Klotzschiana*, and *Swartzii*, Meisn.—A shrub, 10′–20′ high; spikes subsessile: flowers white; stamens exserted; berry purple, 3‴–2‴ long, 2½‴–2‴ diam.: crown, formed of oblong, erect or spreading segments, ½‴ high and broad.

α. *Jacquini.* Leaves ovate-oblong, acuminate, rounded or subcordate at the base (8″–3″ long, 3″–2″ broad): petiole often pubescent.

β. *barbadensis*, Jacq. Leaves ovate-roundish, with a bluntish point, subcordate or roundish at the base (5″–4″ long, 3″–2½″ broad).—*Jacq. Obs. t.* 8.

γ. *microstachya*, W. Leaves ovate or elliptical, blunt, rounded or bluntish at the base (6″–3″ long, 4″–2″ broad).

δ. *parvifolia.* Leaves elliptical, pointed at both ends, rarely rounded at the base (4″–2″ long, 2″–1″ broad).

HAB. Jamaica!: all collect. (γ, rarely β, δ); Antigua!, *Wullschl.* (α, δ); [Swedish and French islands!, Venezuela].

Sect. 2. LEUCOMELÆNA.—*Achenium protruding beyond the calyx-limb.*—Leaves papery-membranaceous, inserted into the base of the ochrea.

15. **C. nivea,** *Jacq.* *Leaves papery,* elliptical or elliptical-oblong, tapering and pointed

at both ends, or minutely rounded at the base: *primary veins immersed above*, prominulous beneath, tertiary ones slightly prominulous on both sides: ochreæ split; *spikes* simple, *virgate*: flowers glomerate: bracts enclosing the base of the sessile, 5-partite calyx; berry "ovoid, exceeded by the conical top of the achenium."—*Jacq. Amer. Pict. t.* 115. *Desc. Fl.* 3. *t.* 352.—C. excoriata, *Jacq.*—A branched tree, 20′–30′ high; leaves 7″–4″ long, 2½″–2″ broad: petiole 6‴–4‴ long; spikes 3″–4″ long, usually nodding at the top: flowers yellowish; stamens exserted; berry "2½‴ long, white, with the protruding achenium-top black."—HAB. Jamaica (*Sw.*); Antigua!, *Wullschl.*; [Portorico!, French islands!].

Antigonon leptopus, Hook. Arn., is a cultivated plant in Jamaica.

LVIII. PIPERACEÆ.

Flowers naked, amentaceous. *Ovary* simple: ovule single, basilar, atropous. *Embryo* minute, enclosed within the persistent embryo-sac, lying at the top of amylaceous perisperm. —Leaves *quite entire*.

Aromatic, pungent properties are universal in this Order: of the famous East-Indian Piperaceæ, *Piper nigrum* (the common Pepper: Desc. Fl. 6. t. 424), *Cubeba officinalis*, Miq. (Desc. Fl. 6. t. 429), and *Chavica Betle*, Miq. (the Betel-pepper), are cultivated in the West Indies. Several species afford Colonial medicines, *e. g. Artanthe Bredemeyeri, Ottonia Vahlii.*

1. PEPEROMIA, *R. P.*

Bracts peltate. *Stamens* 2, lateral to the ovary. *Ovary* sessile: stigma penicillate or minute. *Pericarp* thin.—Herbs; leaves *usually succulent, exstipulate.*

§ 1. *Leaves alternate, palmatinerved.*

* *Stigma sessile on the top of the ovary.*

† *Delicate, creeping, radicant herbs; fruit subsessile, devoid of a beak.*

1. **P. nummularifolia,** *Kth.* Puberulous or glabrate; stem elongated, filiform, radicant; leaves alternate, *orbicular, convex-concave, fleshy*, ciliate, obsoletely 3-nerved: anthers subsessile; stigma minute; fruit ovoid, subsessile.—*Miq. Pl. Fockean. t.* 2.—Piper, *Sw.* Acrocarpidium, *Miq.!*—Stem creeping to indefinite length: amentiferous branches usually 1″–1½″ long; hairs scattered, curved; leaves 4‴–3‴ diam.; aments 6‴–8‴ long.—HAB. Jamaica!, *Bancr.*, *March*, *Wils.*, to Trinidad!: *Sieb. Tr.* 16, in moist places and on trees; [Cuba!, and Mexico to Brazil!].

2. **P. exilis,** *Gr.* Stem hair-like, glabrous, radicant; *leaves* alternate, *orbicular, flat, membranaceous*, glabrous, ciliate with long, distant hairs, obsoletely 3-nerved; filaments distinct; stigma minute; fruit ovoid, subsessile.—Acrocarpidium, *Miq.* Stem diffuse, flexuose, several inches long: amentiferous branches as long as the ament; leaves 2‴ diam., pellucid, devoid of black dots; aments 6‴–4‴ long.—HAB. Jamaica!, *Wils.*; Trinidad!, *Cr.*; [Portorico!].

3. **P. rotundifolia,** *Kth.* Stem puberulous or glabrate, elongated, filiform, radicant; *leaves* alternate, *oval*, or the inferior oval-roundish, *flat*, glabrescent, dotted beneath with reddish points, obsoletely 3-nerved; anthers subsessile; stigma minute; ovary ovoid.—Piper, *L.*, *Sw. Observ.* Peperomia Vincentiana, *Miq.!* (*non* Acroc. rotundifolium, *Ej.*).—Nearly allied to *P. nummularifolia*, but the amentiferous branches longer, and most leaves 4‴–5‴ long, 2‴–3‴ broad, their marginal bristles rather more distant, at length disappearing.—HAB. Jamaica (*Sw.*), among mosses, on trees and stones; Antigua!, *Wullschl.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; [Venezuela!].

4. **P. cordifolia,** *Dietr.* Stem glabrous, filiform, radicant; *leaves* alternate, *obcordate, flat-convex*, glabrescent, eciliate, obsoletely 3-nerved; anthers subsessile; stigma minute; fruit ovoid, subsessile.—Piper, *Sw.* Acrocarpidium, *Miq.!*—Stem creeping to indefinite length; leaves 7‴–4‴ long, 5‴–4‴ broad, retuse at the top, broadly cuneate or rounded at the base; aments shortly peduncled, 8‴–10‴ long.—HAB. Jamaica!, *Macf.*, *March*, *Wils.*, *Wullschl.*, in moist woods, and on trees or stones; Dominica!, *Imr.*

5. **P. serpens,** *Loud.* "Glabrous; stem filiform, radicant; *leaves* alternate, *reniform-*

roundish, with a very short, blunt point, flat, eciliate (6‴ broad); anthers subsessile; stigma punctiform; fruit ovate, pointed, sessile."—*Miq. Ill. t.* 1, *fig. sup.*—Piper, *Sw.* Verhuellia, *Miq.* V. elegans, *Miq.*—HAB. Jamaica (*Sw.*), among mosses, on stones, in the mountains.

†† *Stem low, simple, or few-branched; fruit stipitate.*

6. **P. tenella,** *Dietr.* Stem glabrescent, simple or simply divided, ascending; *leaves* alternate, *ovate-oblong*, obtusate, *glabrous*, ciliate towards or at the top, flat, obsoletely 3-nerved; filaments distinct; stigma penicillate; fruit elliptical, tapering at both ends, glabrous, shortly stipitate.—Piper, *Sw.* Acrocarpidium, *Miq.*—Stem 2″–3″ long beyond the aphyllous, filiform, radicant base; leaves delicate, shortly petioled, 8‴–4‴ long, 3‴–2‴ broad; aments terminal, solitary, shortly peduncled, 10‴–12‴ long.—HAB. Jamaica!, *Wils.*, among mosses, on trees, in the mountains; [Cuba!].

7. **P. hispidula,** *Swt.* "Stem glabrous, simply divided, suberect, (2″–3″ long); *leaves* alternate, *roundish*, emarginate at the base, with scattered hairs above, glabrous beneath; filaments very short; *fruit* roundish, tapering at both ends, *hispid*, stipitate."—*Sw. Ic. Ind. Occ. t.* 4.—Piper, *Sw.*—HAB. Jamaica (*Sw.*), in moist woods, on the highest peaks of the Blue Mountains; [Martinique].

††† *Stem branched; fruit sessile (rarely subsessile).*

8. **P. pellucida,** *Kth.*, *Miq.!* Glabrous, *pellucid-membranaceous;* stem diffuse; *leaves* alternate, *subcordate-deltoid*, pointed, 5–7-nerved; flowers at length distant: bracts oblong, deciduous; filaments distinct; stigma penicillate; fruit roundish or ovoid, bluntish, sessile.—*Desc. Fl.* 3. *t.* 226.—Piper, *L.*—Stem delicate, usually spithameous; leaves 10‴–14‴ diam., long-petioled; aments terminal and axillary, shortly peduncled, 1″–2″ long.—HAB. Jamaica!, *March*, *Wils.*, to Trinidad!, *Schach;* [Panama! to Brazil!].

9. **P. acuminata,** *Miq.!* (*non R. P.*). Glabrous, succulent; stem erect, branched; *leaves* alternate, thin, *elliptical, pointed*, bluntish at the top, 5-nerved, *black-dotted beneath:* petiole short, channelled, sheathing; stigma minute; fruit globose, sessile, with a very short, straight mucro.—*R. P. Fl. t.* 51 *C.*—Piper, *L.*, *Sw.* Pep. obliqua, *R. P.* P. Hamiltoniana, *Miq.!*, a form with small, bluntish leaves.—Stem 8″–12″ high; leaves 2½″–1″ long, 1½″–½″ broad, ovate at the base; aments shortly peduncled, 3″–5″ long.—HAB. Jamaica!, *Macf.*, *Wils.*, *March;* Antigua!, *Wullschl.;* Dominica!, *Imr.;* [Cuba! to Peru!].

10. **P. dendrophila,** *Schlecht.* Glabrous, succulent; stem diffuse; *leaves* alternate, thin, *ovate-lanceolate* or elliptical-lanceolate, *acuminate*, bluntish at the point, tapering into the short petiole, *triplinerved* with two accessory veins, *devoid of black dots;* stigma minute; fruit globose, sessile, with a very minute, somewhat oblique mucro.—*Miq. Ill. t.* 7.—Piper tenuiflorum, *Hb. Bks.*—Habit of the preceding, but more diffuse; leaves 1½″–4″ long, ½″–1½″ broad; aments shortly peduncled, 18‴–6″ long.—HAB. Jamaica!, *Al.*, *Wils.*, *March*, *Wullschl.*, on trees; [Cuba!, probably to Brazil].

11. **P. glabella,** *Dietr.* Glabrous, succulent; stem scandent or radicant, diffuse, with divergent branches; *leaves* alternate, *ovate or ovate-lanceolate*, pointed or acuminate, rounded or shortly cuneate at the base, *triplinerved* with two accessory veins, *covered on both sides with black dots:* petiole narrow; stigma minute; fruit ovoid-globose, with a short, oblique mucro.—Piper, *Sw.!* P. distachyon, *Sieb. Mart.* 6 (*non L.*). Peperomia nigropunctata, *Miq.!*—Stem black-dotted, more flaccid than in the two preceding species; leaves smaller, 1″–2″ long, 6‴–12‴ (–4‴) broad; aments shortly peduncled, 1″–4″ long.—HAB. Jamaica;, *Al.*, *March*, *Wils.*, *Wullschl.*, common in woods, on trees and walls; Antigua!, *Nichols.*, *Wullschl.;* Trinidad!, *Cr.;* [Cuba!, French islands!].

12. **P. hirtella,** *Miq.!* *Puberulous*, succulent; stem ascending, branched; *leaves* alternate, thin, ovate or elliptical, pointed or bluntish, *3-nerved, black-dotted beneath:* hairs short, usually curved: petiole narrow; stigma terminal; fruit subglobose, sessile, blunt.—Stem 1′ high; leaves 1½″–1″ long, 10‴–6‴ broad; aments shortly peduncled, 4″–1″ long.—HAB. Dominica!, *Imr.*, in mountain-woods; [Venezuela!].

** *Stigma minute, on the anterior side of the subulate ovary-beak.*

13. **P. repens,** *Kth.* Puberulous, succulent; stem creeping, with the low branches ascending; *leaves* alternate, thin, *deltoid-roundish, blunt*, 5-nerved, devoid of black dots,

glabrescent beneath; aments short, nearly as long as the peduncles and petioles; ovary beaked: stigma anterior; *fruit oblong-cylindrical,* subsessile: beak linear.—*Linn. Transact.* 9. *t.* 21. *f.* 2.—Piper bracteatum, *Thomps.* Pep. reniformis, *Hook.!* Acrocarpidium repens, *Miq.! and* Guildingianum, *Miq.!*—Stem radicant, of indefinite length; leaves 4‴–9‴ diam., nearly as long as the petiole; fruit with a very minute carpophore.—Hab. Jamaica!, *March, Wils., Wullschl.,* to Trinidad!, *Cr.;* [Cuba! to Brazil!].

§ 2. *Leaves alternate (sometimes partly opposite), with a strong, flat midrib. Stigma minute, on the anterior side of the subulate ovary-beak.*

* *Leaves thin, peltate, or their lamina distinct from the petiole.*

14. **P. hernandifolia,** *Dietr., Miq.!* Glabrous, succulent; stem creeping, radicant, ascending at the top; *leaves* alternate, distant, thin, *peltate, ovate, cuspidate,* obsoletely 7–9-nerved: *petiole as long as the lamina, the latter inserted below its middle;* aments shorter than the elongated peduncle: ovary beaked; fruit ovoid, sessile, as long as the beak.—Piper, *V.* Pep. Ponthieui, *Miq.*—Stem of indefinite length: internodes 2″–3″ long; leaves 3″–1½″ long, 24‴–9‴ broad: aments 1″–2″ long.—Hab. Jamaica!, *March, Wils.;* S. Vincent!, *Guild.;* Granada, Trinidad (*Thomps.*), in mountain-woods; [Cuba!].

15. **P. producta,** *Gr.* (*n. sp.*). Glabrous, succulent; stem creeping, radicant, ascending at the top; *leaves* alternate, distant, thin, *elliptical,* shortly cuspidate with a bluntish point, *rounded at the subpeltate base,* obsoletely septuplinerved: *petiole as long as the lamina, the latter inserted immediately above its base;* aments usually geminate, longer than their special, shorter than their common peduncle; ovary beaked; fruit ovoid-oblong, sessile, longer than its curved beak.—Intermediate between the preceding and the following species; leaves 3″–2″ long, 2″–1″ broad, papery, opaque, obsoletely yellow-dotted beneath: rounded base produced about 1‴ beyond the petiole, which is rather flatly channelled, equalling the internodes; aments 1″–1½″ long: peduncles axillary, ascending (together with the leaves) from the creeping stem.—Hab. Jamaica!, *Macf.;* [Cuba!].

16. **P. distachya,** *Dietr.* Puberulous or glabrate, succulent; stem creeping, radicant, ascending at the top; *leaves* alternate, distant, thin, *ovate,* cuspidate with a bluntish point, *subcordate or rounded at the base,* ciliate, obsoletely septupli-7-nerved: *petiole usually shorter than the lamina, the latter inserted at its base;* aments usually geminate, about as long as the peduncles; ovary beaked; fruit ovoid, sessile, longer than its curved beak.—*Plum. Descr. t.* 67.—Piper, *L.*—Leaves 2″–1″ long, 18‴–6‴ broad; aments 1″–2″ long.—Hab. Jamaica!, *March,* on rocky hills; [Cuba! to Brazil!].

** *Leaves tapering at the base.*

17. **P. obtusifolia,** *Dietr., Miq.!* Glabrous, fleshy-succulent; stem ascending; *leaves* alternate, leathery, *broadly-obovate or spathulate,* retuse or blunt, *tapering into the petiole,* penninerved; aments subterminal, usually geminate, elongated, curved: peduncles as long as the leaves; ovary beaked; *fruit* ovoid, sessile, *as long as the strong, deflexed beak.*—*Plum. Descr. t.* 70. *Desc. Fl.* 5. *t.* 313.—Piper, *L.*—Stem about 1′ high; leaves 3″–2″ (–6″) long, 2½″–8‴ (–3″) broad: petiole channelled, 12‴–4‴ long; aments 6″–2″ long.

α. Leaves broadly obovate or obovate-roundish.—Jacquin's figure (*Ic. Rar. t.* 212) of his *P. clusiifolium,* usually quoted as a synonym, represents well the leaf-form, but is nearly devoid of petioles.

β. cuneata, Miq. Leaves spathulate (2½″–2″ long, 10‴–8‴ broad).

γ. papyracea. Leaves obovate-oblong, less thick (6″–4″ long, 3″–1½″ broad).

Hab. Jamaica!, *Macf., Lane, March* (*α* and *γ*); Antigua!, *Wullschl.;* S. Vincent!, *Guild.* (*α* and *β*), in rocky woods; Trinidad; [Mexico! and Cuba! to Brazil!].

18. **P. amplexicaulis,** *Dietr., Miq.!* Glabrous, fleshy-succulent; stem ascending; *leaves* alternate, leathery, *spathulate-lanceolate* or spathulate (rarely obovate), bluntish or blunt and retuse, *tapering into the sessile or subsessile base,* penninerved; aments usually geminate, elongated; ovary beaked; *fruit* ovoid, sessile, *much longer than the conical appendage,* the slender beak of which is deciduous.—Piper, *Sw.!*—Leaf-form as variable as in the preceding; aments 6″–4″ long: special peduncles 1″ long.

α. Swartziana. Leaves spathulate-lanceolate or spathulate, gradually tapering into the rounded, sessile base.—*Jacq. Ic. Rar. t.* 214.—Piper cuneifolium, *Jacq.*—Stem about 1′ high; leaves 8″–4″ long, 1½″–1″ broad above, 6‴–3‴ at the base.

β. magnolifolia, Dietr. Leaves spathulate or obovate-spathulate, cuneate above the channelled, subsessile base.—*Jacq. Ic. Rar. t.* 213.—Piper, *Jacq.*—Leaves 5″–3″ long, 20‴–12‴ broad above, 2‴–1‴ at the base.

HAB. Jamaica !, *Macf.*, *March*, *Wullschl.* (*a*, *β*); [Guadeloupe].

19. **P. talinifolia,** *Kth.* Glabrous, fleshy-succulent; stem erect; *leaves* alternate, leathery, *elliptical* or elliptical-oblong, bluntish, *tapering into the short petiole*, penninerved: veins inconspicuous; aments usually geminate, elongated; ovary beaked; fruit . . . .—*Kth. Nov. Gen. t.* 8.—Stem 1′ high; leaves 5″–3″ long, $2\frac{1}{2}$″–$1\frac{1}{4}$″ broad: petiole channelled, 8‴–4‴ long; aments 4‴ long.—HAB. Trinidad !, *Cr.*; [New Granada].

20. **P. alpina,** *Dietr.* Glabrous, fleshy-succulent; stem erect or ascending; *leaves opposite, superior alternate*, leathery, *elliptical* or elliptical-roundish, *pointed at both ends*, shortly petioled, penninerved; aments solitary; ovary beaked; fruit . . . .—Leaves 2″–$1\frac{1}{2}$″ long, 10‴ broad, exceeded by the aments.—HAB. Jamaica (*Sw.*), in the mountains; [Cuba ! in the eastern hills].

21. **P. pernambucensis,** *Miq.* Glabrous, succulent; stem erect, aphyllous above; *leaves* alternate, large, papery, *elliptical, mucronate* at the rounded top, cuneate at the base and tapering into the petiole, penninerved; *aments* short, subsessile, *whorled in an aphyllous, terminal panicle;* ovary beaked: beak deciduous; fruit ovoid, with a short, blunt appendage.—1′ high; leaves 8″–3″ long, $3\frac{1}{2}$″–$1\frac{1}{2}$″ broad: petiole 2″–$\frac{1}{2}$″ long; panicle as long as the leaves, long-peduncled: aments 10‴–6‴ long, 4–8 in each whorl (rarely scattered).—HAB. Trinidad !, *Cr.*, rare at Irais; [Venezuela !, Pernambuco].

§ 3. *Leaves whorled, rarely opposite, shortly petioled. Stigma terminal.*

* *Amentum-rhachis smooth; fruit devoid of an appendage.*

† *Leaves thin, dotted.*

22. **P. stellata,** *Dietr.* *Stem* erect or ascending, branched, *pubescent*, subcylindrical; *leaves* 3–4 (–5) in the whorl, *ovate-lanceolate*, acuminate with a bluntish point, 3-nerved, *glabrescent, pellucid-dotted;* rhachis smooth: flowers distant; fruit sessile, bluntish.—Piper, *Sw.*—1′ high; leaves 12‴–6‴ long, 6‴–3‴ broad: petiole 2‴–1‴ long; aments 3″–2″ long, filiform, straight, shortly peduncled.—HAB. Jamaica !, *March, Wils.*, in mountain-woods.

23. **P. galioides,** *Kth.* *Stem erect*, branched, *puberulous* with very short hairs, subcylindrical; *leaves* 6–4 (–2) in the whorl, *oblanceolate*, blunt, 3-nerved, *glabrescent*, punctate beneath with brownish, pellucid dots, *subsessile;* rhachis smooth: flowers distant; fruit sessile, bluntish.—*Kth. Nov. Gen. t.* 17.—1′ high, trichotomous-fastigiate above; leaves 4‴–3‴ long, 1‴–$\frac{2}{3}$‴ broad; aments 15‴–6‴ long, filiform, straight, shortly peduncled.—HAB. Jamaica !, *Wils.*; [New Granada, Brazil].

24. **P. Swartziana,** *Miq.* *Stem creeping*, filiform, glabrescent, tetraquetrous; *leaves* 4–2 (–6) in the whorl, *obovate*, oval or spathulate-oblong, tapering into the petiole, blunt or emarginate, obsoletely 3-nerved, *glabrous, ciliate*, with a few large, pellucid dots; rhachis smooth: flowers approximate; fruit . . . .—*Sw. Ic. Ind. Occ. t.* 5.—Piper filiforme, *Sw.* Perhaps identical with *P. tenerrima*, Schlecht. (Miq. Ill. t. 21).—Stem radicant, of indefinite length: branches short, ascending; leaves 3‴–2‴ long, 2‴–1‴ broad; aments 4‴–2‴ long, terminal, solitary, peduncled.—HAB. Jamaica (*Sw.*), creeping among mosses in the mountains; [Portorico !].

25. **P. pulchella,** *Dietr.* *Stem erect*, few-branched, *puberulous*, cylindrical: hairs very short, mixed sometimes with long, spreading ones; *leaves* 4–3 in the whorl, *spathulate-oblong*, oblong or oval, blunt or bluntish, *tapering into the petiole*, obsoletely 3-nerved, *glabrescent* or puberulous above, obsoletely pellucid-dotted; rhachis smooth: flowers approximate; fruit . . . .—Piper, *Ait.*—Stems cæspitose, 4″–3″ high; leaves 4‴–5‴ long, 2‴ broad: petiole 1‴–$\frac{1}{2}$‴ long; aments 4‴–3‴ long, terminal, shortly peduncled.—HAB. Jamaica !, *Dist.*; Antigua !, *Wullschl.*

26. **P. verticillata,** *Dietr.* *Stem* erect, branched, *densely pilose*, striated: hairs as long as its diameter, jointed; *leaves* 4–6 (–2) in the whorl, *obovate* or oval, bluntish or blunt, shortly petioled, 3-nerved, puberulous (or glabrescent) above, *pubescent beneath*, often

with a few large, pellucid dots; rhachis smooth; flowers distant; fruit . . . .—Piper, *L.*—Stems cæspitose, 6″–4″ long; leaves succulent, 4‴–3‴ long, 3‴–2‴ broad; aments 8‴–6‴ long, terminal, shortly peduncled.—HAB. Jamaica!, *March.*

27. **P. ciliata,** *Kth.* *Stem* erect, simple or few-branched, *pubescent,* striated: down short; *leaves* 2 (–3) in the whorl, *elliptical,* elliptical-roundish, or elliptical-lanceolate, pointed at both ends or bluntish, *petioled,* 3–5-nerved, *puberulous, densely black-dotted;* rhachis smooth, elongated: flowers distant; fruit ovoid, sessile, bluntish.—1′ high; leaves opaque, succulent, 2″–1″ long, 15‴–4‴ broad: petiole 4‴–2‴ long; aments 5″–1½″ long, terminal, shortly peduncled.—HAB. Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [Venezuela].

28. **P. Myrtillus,** *Miq.!* Stem erect, branched, glabrescent, subcylindrical; *leaves* 4 (–2) in the whorl, *lanceolate* or elliptical-lanceolate, *acuminate* with a bluntish point or pointed, shortly petioled, obsoletely 3-nerved, *glabrous,* with obsolete, pellucid dots; rhachis smooth: flowers approximate, at length distant; fruit . . . .—Stems cæspitose, 8″–4″ long; leaves 15‴–8‴ (–4‴) long, 4‴–3‴ broad: petiole 2‴–½‴ long; aments 12‴–4‴ long.—HAB. Jamaica!, *Macf.;* [Cuba!].

†† *Leaves rigid, opaque.*

29. **P. septemnervis,** *R. P.* *Stem erect,* simple or few-branched, glabrous, subcylindrical; *leaves* opposite (or 3–4 in the whorl), ovate-lanceolate or lanceolate, acuminate, 7–5-*nerved,* tapering into the petiole, glabrous, opaque, leathery; rhachis smooth: flowers approximate; fruit . . . .—*R. P. Fl. t.* 47 *C:* the leaf-top more pointed than in our plant.—1′ high; leaves 2″–1¼″ long, 8‴–6‴ broad: petiole 3‴–2‴ long; aments 1″ long, terminal, peduncled.—HAB. Jamaica!, *Macf., Pd., March;* [Peru].

30. **P. quadrangularis,** *Dietr.* *Stem creeping,* simple or few-branched, glabrous, *tetraquetrous; leaves* opposite, oval, bluntish, rounded at the base, 3-*nerved,* shortly petioled, glabrous, opaque, rigid; rhachis smooth: flowers approximate; fruit . . . .—*Linn. Transact.* 9. *t.* 21. *f.* 1; *Mart. Fl. Bras.* 11. *t.* 1. *f.* 8.—Piper, *Thomps.* Peperomia muscosa, *Lk.*—Stems cæspitose, spithameous; leaves 12‴ long, 8‴ broad: petiole 1‴ long; aments 6‴–8‴ long, axillary, shortly peduncled.—HAB. Trinidad!, *Cr.;* [Equatorial Brazil].

** *Amentum-rhachis foveolate; fruit rostellate.*

31. **P. quadrifolia,** *Kth., Miq.!* Glabrous; stem ascending, branched, striated; *leaves* 4 (rarely 2) in the whorl, *obovate, emarginate,* cuneate at the shortly petioled base, 1-*nerved* or obsoletely triplinerved, rigid-succulent, obsoletely pellucid-dotted; rhachis foveolate, glabrous: flowers approximate; ovary rostellate; fruit ovoid, shortly beaked.—*Plum. Ed. Burm. t* 242. *f.* 3.—Piper, *L.*—Ascending branches 6″–4″ long; leaves 6‴–4‴ long, 3‴–2‴ broad: petiole 1‴–½‴ long; aments 1½″–1″ long, terminal, peduncled.—HAB. Jamaica!, *Macf., Pd., March,* in mountain-woods; [Mexico!, Venezuela!].

32. **P. obversa,** *Dietr.* Glabrous; stem creeping, branched, subcylindrical; *leaves* 3 (4–2) in the whorl, *oval-roundish,* emarginate or rounded at the top, petioled, *obsoletely* 3-*nerved,* succulent, pellucid-dotted; rhachis foveolate, glabrous: flowers approximate; ovary bluntish: stigma thick; fruit . . . .—Piper, *V.*—Branches 8″–4″ long; leaves 5‴–4‴ long, 4‴–3‴ broad, usually rounded at the base: petiole 2‴–1‴ long; aments 1½″–1″ long, terminal, shortly peduncled.—HAB. Montserrat (*V.*); [Cuba!].

33. **P. trifolia,** *Dietr.* Stem creeping: *branches* ascending, *tetragonal, pilose; leaves* 3 (4–2) in the whorl, *oval* or slightly obovate, rounded or emarginate at the top, petioled, 3-*nerved, ciliate* with long hairs, glabrescent or with scattered hairs beneath, succulent, obsoletely pellucid-dotted; *rhachis* foveolate, *glabrous:* flowers approximate; ovary rostellate; fruit globose: the oblique beak almost as long as its diameter.—*Plum. Descr. t.* 68; *Hook. Exot. t.* 165.—Piper, *L.* Pep. ovalifolia, *Hook.!* P. fimbriata, *Miq., Gr. Pl. Carib.*—Branches 4″–2″ long; leaves 8‴–6‴ long, 6‴–5‴ broad: petiole 2‴–1‴ long; aments 3″–2″ long, terminal, solitary or ternate; peduncle 1″–1½″ long.—HAB. Dominica!, *Imr.;* S. Lucia, S. Vincent!, *Guild.,* on trees; [Guadeloupe!].

34. **P. reflexa,** *Dietr.* Stem creeping: *branches* erect or ascending, *tetragonal, glabrescent; leaves* 4–3 (–6) in the whorl, *rhomboid-elliptical,* blunt, cuneate at the subsessile base, 1-*nerved* or obsoletely 3-nerved, glabrous, rigid-succulent, obsoletely pellucid-dotted;

rhachis deeply foveolate, *pubescent:* flowers approximate; ovary rostellate; fruit ovate, with a very short beak.—*R. P. Fl. t.* 47 *B.*—Piper, *L., Sw.* Pep. filiformis, *R. P.*—Branches 2″–6″ long, simple or simply trichotomous; leaves 6‴–4‴ long, 5‴–3‴ broad; aments 6‴–8‴ long, blunt at the top, as long as their peduncle.—HAB. Jamaica!, *Macf., Dist., Bancr., March,* on trees; [Venezuela! to Brazil! and Peru!; Pacific Islands!; East Indies!; tropical Africa to the Cape!].

2. POTHOMORPHE, *Miq.*

Bracts peltate. *Stamens* 2, lateral to the ovary. *Ovary* sessile: stigmas 3, sessile, recurved. *Pericarp* thin.—Shrubs; leaves *large, cordiform or peltate, membranaceous, pellucid-dotted: petiole sheathing;* aments *umbellate, axillary, peduncled.*

35. **P. peltata,** *Miq.!* *Leaves peltate,* cordate-roundish with a small point, 13-nerved: two pairs inserted beyond the base of the midrib; umbels usually 8–12-rayed.—*Plum. Descr. t.* 74; *Desc. Fl.* 4. *t.* 236.—Piper, *L.*—4′–6′ high; leaves 12″–8″ diam.: petiole as long; aments 4″–3″, pedicels 4‴, peduncles 1½″ long.—HAB. Jamaica!, *Dist., Wils., March,* to Trinidad!, *Schach,* in woods; [Cuba! to equatorial Brazil! and New Granada!].

36. **P. umbellata,** *Miq.* *Leaves not peltate,* cordate-roundish with a deltoid point, 11–13-nerved: one pair inserted beyond the base of the midrib; umbels usually 5–3-rayed. —*Plum. Descr. t.* 73.—Piper, *L.*—Leaves 10″–6″ diam.: petiole as long, hairy; aments 4″–2″, pedicels 5‴–2‴, peduncles 8‴–6‴ long.—HAB. Jamaica!, *Al., March, Wullschl.;* [Cuba! to Brazil!].

3. ENCKEA, *Kth.*

Bracts cucullate. *Stamens* 5–6 (4–7), inserted around the ovary: anther-cells confluent above. *Stigmas* 3 (–5), sessile. *Pericarp* baccate: seed sulcate.—Shrubs (*rarely trees*); leaves *palmatinerved, opposite to an abortive leaf: nodes tumid;* aments *opposite to the leaves, solitary, bluntish.*

* *Leaves rigid, reticulated with transverse veins.*

37. **E. smilacifolia,** *Kth., Miq.!* Glabrous; *leaves* large, papery, ovate or ovate-oblong, shortly acuminate, oblique at the rounded or subcordate base, 7–5-nerved, obsoletely pellucid-dotted, shining, *much longer than the aments: veins transverse; flowers contiguous;* "berry ovoid."—Piper decumanum, *W.*—A high shrub or tree; leaves 10″–8″ long, 8″–5″ broad: petiole 6‴–4‴ long; aments 5″–4″ long, shortly peduncled.—HAB. Trinidad!, *Schach, Cr.,* in woods; [Guadeloupe!, Panama!, Venezuela].

** *Leaves membranaceous.*

38. **E. Amalago,** *Gr.* Glabrous, or the petioles and leaf-ribs puberulous; *leaves* membranaceous, obliquely ovate-oblong, *ovate-lanceolate* (or hastate-subulate), with a narrow, usually bluntish point, 5-nerved, about as long as the aments; *berries distant,* ovate, *blunt,* sulcate.—*Sl. t.* 87. *f.* 1; *R. P. Fl. t.* 57 *B; Jacq. Eclog. t.* 76.—Piper, *L.* (*ex ic. Sl.*), *Sw.!* P. glaucescens, *Jacq.* P. unguiculatum, *R. P.* E. unguiculata *and* glaucescens, *Kth.*—A dichotomous shrub, 10′–3′ high; aments 3″ long: rhachis pubescent.

α. Petioles and leaf-ribs glabrous; leaves nearly opaque (4″–2½″ long, 24‴–8‴ broad).

β. hirtella. Petioles pubescent; leaf-ribs puberulous, chiefly towards the base and beneath; leaves minutely pellucid-dotted (4″–2″ long, 2″–1″ broad).—E. ceanothifolia, *Miq.!* (*exclus. diagn. et synon. Kth.*).

γ. variifolia, Miq. Glabrous; leaves hastate-subulate, opaque (3″–2″ long, 6‴ broad at the roundish base, 2‴–4‴ broad above).

HAB. Jamaica!, *Macf.* (*β*), *Al.* (*α*), *March, Wils., Wullschl.* (*α, γ*), in the hills; [Cuba! and Mexico to Brazil and Peru].

39. **E. Swartzii,** *Gr.* Glabrous, or the petioles slightly puberulous; *leaves* membranaceous, minutely pellucid-dotted, *ovate,* with a narrow, blunt point, often oblique at the base, triplinerved with 1–2 basilar pairs of nerves besides, usually somewhat longer than the aments; *berries distant,* ovoid-oblong, *abruptly rostellate,* sulcate.—Piper discolor, *Sw.* E. plantaginea, *Miq.!* (*cf. seq.*).—A shrub; leaves 6″–3″ long, 3½″–1½″ broad, rounded

or subcordate or minutely cuneate at the base: petiole 8'''–4''' long; aments 4''–1½'' long: rhachis glabrescent.—Hab. Jamaica!, *Macf.*, *Pd.*, *Wils.*, *March*, in the mountains, at 4000' alt.

40. **E. Sieberi,** *Miq.* Glabrous, or the petioles slightly puberulous; *leaves* membranaceous, minutely pellucid-dotted, *ovate*, with a narrow acute or bluntish point, somewhat oblique at the base, 5–7-nerved, somewhat longer than the aments; *berries approximate*, ovate, *blunt*, obsoletely sulcate.—*Jacq. Ic. Rar. t.* 8; *Miq. Ill. t.* 65; *Desc. Fl.* 6. *t.* 427. —Piper medium, *Jacq.* P. discolor, *Desc.* (*non Sw.*). E. plantaginea, *Kth.*: a name comprising (from its synonyms) this and the preceding species, and applied to the latter by Miquel.—A shrub; leaves 4''–3'' long, 2½''–1½'' broad; aments 3''–1½'' long.—Hab. Antigua!, *Wullschl.*; Dominica!, *Imr.*; Trinidad (*Sieb.*); [S. Croix, Guadeloupe!, along roads, Venezuela!].

E. reticulata, Miq. (Plum. Ed. Burm. t. 242. f. 2), a synonym of which (Pl. Carib.) belongs to a Trinidad plant not seen by myself, is probably no congener, the uppermost leaf-ribs being distant from the leaf-base.

4. SCHILLERIA, *Kth.* (*emend.*)

(Artanthe, *sect.* Nhandi, *Miq.*)

Bracts peltate. *Stamens* 5, inserted around the ovary: anther-cells distinct. *Stigmas* 3 (-5), sessile. *Pericarp* baccate: seed angular.—Shrubs; leaves *cordate, palmatinerved: petiole usually winged towards the base: nodes and abortive leaves as in* Enckea; aments *opposite to the leaves, solitary, mucronate: bracts approximate, villous-ciliate.*

41. **Sch. caudata,** *Kth.* Leaves cordate-roundish, usually with a narrow point, membranaceous, 9–11-nerved, minutely pellucid-dotted: petiole winged below; aments shortly peduncled, curved, nearly as long as the leaf.—Piper, *V.* Artanthe, *Miq.!*—A high shrub; leaves 6''–4'' diam., glabrescent (rarely puberulous): basilar sinus usually spreading.—Hab. Trinidad!, *Lockh.*, *Cr.*; [Portorico; Panama!, Venezuela! to Pernambuco!].

5. ARTANTHE, *Miq.*

Bracts peltate. *Stamens* 4 (2 inferior, 2 superior) or 2, lateral to the ovary: anther-cells connivent. *Stigmas* 3–5 (-2), sessile. *Pericarp* baccate: seed angular.—Shrubs *or* trees; leaves *uninerved with arched veins;* nodes, abortive leaves, *and* aments, *as in* Schilleria.

§ 1. *Principal arched veins more distant from the top of the leaf than from each other; leaves pellucid-dotted.*

* *Leaves smooth (or rugose).*

42. **A. jamaicensis,** *Gr.* *Leaves* ovate-oblong or ovate, with a short, acuminate point, *very unequal at the rounded base, smooth, glabrous* above, hairy on the nerves beneath, papery: principal veins 4–5-jugal, alternate, the inferior approximate, the uppermost inserted at a distance from the leaf-top; *peduncles longer than the* short *naked petiole.*—Piper nitidum, *Sw.* (not *A. nitida*, Miq., a synonym of which is *P. divaricatum*, Mey.!, or *A. Meyeri*, Miq.).—A shrub, 6' high; leaves 5''–3'' long, 2½''–1½'' broad: the exterior side 2''' protracted at the base: petiole 1'''–2''' long; aments 3''–1'' long, usually straightish: peduncle 4''' long; stamens 4.—Hab. Jamaica!, *Al.*, *March*, in mountain-woods.

43. **A. Bredemeyeri,** *Miq.* *Leaves* obliquely ovate, pointed, *unequal at the base*, smooth or usually pustulate-rugose, *glabrous* with the nerves hairy, membranaceous: principal veins 4–7-jugal, alternate, the uppermost inserted about the middle of the midrib; *peduncles shorter than the naked petiole.*—*Jacq. Eclog. t.* 84.—Piper, *Jacq.* P. auritum, *Sieb. Mart.* 7. P. dilatatum, *Rchb. in Sieb. Trin.* 18. A. macrophylla, *Miq.!* (*exclus. syn. Sw.*). A. ulmifolia, *Miq.!*—A shrub; leaves 7''–4'' long, 4''–2'' broad, often somewhat shining: petiole 12'''–5''' long; aments 4''–2'' long, straight: peduncle 4''' long: flowers densely approximate.—Hab. Antigua!, *Nichols.*, *Wullschl.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Schach*, *Sieb.*; [Portorico, French islands!, Guiana].

44. **A. coruscans,** *Miq.!* *Leaves* ovate or elliptical, cuspidate, *subequal at the base smooth, glabrous* above, puberulous on the nerves beneath, papery: principal veins 5–7 jugal, nearly equidistant, the uppermost inserted distantly from the leaf-top; *peduncles shorter than the margined petiole.*—Piper, *Kth.*—A shrub; leaves 8″–6″ long, 5″–3″ broad: petiole 12‴–8‴ long; aments 3″–2″ long, straight: peduncle 4‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*; [New Granada].

45. **A. rugosa,** *Miq.* Branchlets densely hispidulous; *leaves* oblong or elliptical-oblong, pointed, *equal at the base,* smooth or usually pustulate-rugose above, glabrous above, *puberulous beneath* and hispidulous on the nerves, somewhat leathery: principal veins 4-jugal, the uppermost inserted about the middle of the midrib; *peduncles shorter than the naked petiole.*—Piper, *Lam.* A. trichostachya, *Miq.?*—Leaves 3½″–2½″ long, 1½″ broad: petiole 6‴–3‴ long; aments 1½″ long.—HAB. Trinidad!, *Cr.*; [Haiti, Guiana].

** *Leaves rough, very unequal at the base.*

46. **A. adunca,** *Miq.!* Branchlets rough, hispidulous, with the longer hairs deciduous; *leaves* ovate-oblong, with a narrow point, very unequal at the base, *rough,* papery: principal veins 6–7-jugal, alternate, the uppermost inserted about the middle of the midrib; *peduncles longer than the short naked petiole: aments falcate.*—*Sl. t.* 87. *f.* 2.—Piper, *L.*—A shrub; leaves 8″–5″ long, 3″–2″ broad: exterior side 2‴–3‴ protracted at the base: petiole 2‴–1‴ long; aments 5″–2″ long; peduncle 5‴–4‴ long.—HAB. Jamaica!, *Macf.*, *Al.*; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, common in ravines and along roads; [Panama! to Brazil! and Peru!].

47. **A. scabra,** *Miq.!* Branchlets rough, hispidulous or pilose; *leaves* ovate-oblong or ovate, with a narrow point, very unequal at the base, *rough,* papery: principal veins 5–6-jugal, alternate, the uppermost inserted about the middle of the midrib: *peduncles as long as or shorter than the subcylindrical, naked petiole: aments straight.*—Piper, *Sw.*—A shrub; leaves 10″–4″ long, 3″–2″ (–4″) broad: petiole 6‴–2‴ long; aments 6″–2″ long, with the point of various length: peduncle 5‴–2‴ long.

α. Leaves devoid of spreading hairs; branchlets hispidulous, with the hairs deflexed, shorter than the diameter of the axis, deciduous.—A. scabra *and* hirsuta, *Miq.!*

β. hirsuta. Leaves and branchlets pilose with spreading, long, jointed, persistent hairs. —P. hirsutum, *Sw.*

HAB. Jamaica!, all coll., in the mountains at 1000′–3000′ alt.; S. Vincent!, *Guild.*; Trinidad!, *Lock.*, *Cr.*; [Cuba! to Brazil!].

§ 2. *Principal arched veins equidistant from each other and from the top of the leaf; leaves smooth or pimpled.*

* *Leaves very unequal at the base, devoid of pellucid dots.*

48. **A. verrucosa,** *Gr.* *Branchlets and petioles warty;* leaves large, oblong or ovate-oblong, pointed, very unequal at the subcordate base, smooth, glabrous, leathery: principal veins equidistant, 10–12-jugal: *petioles winged-marginate, shorter than the peduncles.*—Piper, *Sw.!*—A middle-sized tree: the peculiar, white, depressed-globose warts, which cover the epidermis, are never wanting in our specimens; leaves 12″–8″ (–24″) long, 4″–3″ broad, devoid of pellucid dots: exterior side 10‴–5‴ protracted at the base: petiole 6‴–2‴ long; aments straightish or curved, 6″–4″ long: peduncle 12‴–8‴ long.—HAB. Jamaica!, *Al.*, *Wullschl.*, on limestone rocks, S. Anns, Manchester.

49. **A. macrophylla,** *Gr.* (*non Miq.*). *Branchlets smooth;* leaves large, ovate-oblong, pointed, very unequal at the rounded or subcordate base, smooth, glabrous, leathery: principal veins 10–12-jugal, equidistant, or the lowest more approximate: *petioles winged-margined, as long as the peduncles.*—*Sl. t.* 88. *f.* 1.—Piper, *Sw.!* P. inæquale, *Hb. Bks.* A. Lessertiana, *Miq.!* (*exclus. syn. Sw.*): I restore Swartz's name, *A. macrophylla*, Miq., being identical with *A. Bredemeyeri.*—A high shrub, attaining 12′–20′; leaves 12″–8″ long, 5″–4″ broad, devoid of pellucid dots: exterior side 12‴ protracted at the base: petiole 6‴–4‴ long; aments straight, 6″ long.—HAB. Jamaica!, *Pd.*, *Al.*, *Wils.*, *March*, on rocky hills; [Guiana].

50. **A. tuberculata,** *Miq.!* *Branchlets smooth, hairy* or glabrate; leaves oblong or

ovate-oblong, with a bluntish point, very unequal at the base, pimpled with minute blots on the glabrous upper side, smooth and puberulous on the nerves beneath, papery: principal veins equidistant, 8–10-jugal: *petioles very short, winged-sheathing, shorter than the peduncles.*—Piper, *Kth.* (*vix Jacq.*). P. verrucosum, *Sieb. Trin.* 17.—A shrub, with tumid nodes; leaves 5″–4″ long, 2″–1½″ (–2½″) broad: petiole 2‴–1‴ long, 2‴ broad; aments 4″–3″ long: peduncle 4‴–6‴ long.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Sieb.*, *Schach*, *Cr.*; [Mexico! to Brazil!].

51. **A. geniculata,** *Miq.!* *Branchlets smooth, glabrous*; leaves oblong or oblong-lanceolate, acuminate, rarely bluntish, very unequal at the base, smooth, glabrous, papery: principal veins equidistant, 7–12-jugal: *petioles channelled, naked, as long as the peduncles.*—*Mart. Fl. Bras.* 11. *t.* 18; *Miq. Ill. t.* 86.—Piper, *Sw.!* A. xylopioides, *Miq.* A. xestophylla, *Miq.!* (*exclus. syn. Sw.*): a form with shining leaves. A. staminea, *Miq.!*: a rare form, with bluntish leaves.—A shrub: nodes very tumid; leaves 8″–4″ long, 2½″–1½″ broad, devoid of pellucid dots: exterior side 8‴–3‴ protracted at the base: petiole 3‴–4‴ long; aments 3″–5″ long.—HAB. Jamaica!, all coll., in rocky woods; Trinidad!, *Schach*, *Lockh.*; [Guiana!, Brazil].

** *Leaves equal at the base.*

52. **A. æqualis,** *Miq.!* Smooth, glabrous; *leaves elliptical,* with a narrow point, equal at the base, papery, opaque: principal veins equidistant, 6–10-jugal: *petioles channelled, naked, as long as the peduncles.*—*Miq. Ill. t.* 88.—A shrub; leaves 7″–5″ long, 3″–2½″ broad, sometimes unequal-sided, but equal at the base: petiole 6‴–8‴ long; aments 2″ long.—HAB. Montserrat, Dominica!, *Imr.*, Trinidad.

53. **A. Martiana,** *Miq.!* Smooth, glabrous; *leaves elliptical* or ovate, with a narrow point, equal at the base, papery, pellucid-dotted: principal veins 5–6-jugal, equidistant or the lowest approximate: *petioles channelled, naked, twice as long as the peduncles.*—*Miq. Ill. t.* 77.—A. Schachii, *Miq. in Herb. Hook.*—Leaves 7″–4″ long, 4″–2″ broad, often unequal-sided: petiole 12‴–4‴ long; aments 3″–1″ long: peduncle 4‴–2‴ long.—HAB. Trinidad!, *Schach*; [Brazil!].

54. **A. xylosteoides,** *Miq.* Smooth, glabrous; *leaves lanceolate-oblong, acuminate,* tapering towards the equal base, papery, minutely pellucid-dotted: principal veins 4–6-jugal, subequidistant, the lowest more approximate: *petioles channelled, naked, as long as or shorter than the peduncles.*—*Mart. Fl. Bras.* 11. *t.* 13. *f.* 1.—A shrub; leaves 5″–3″ long, 2″–1″ broad, unequal-sided: petiole 3‴–4‴ long; aments 2″–1″ long: peduncle 6‴–4‴ long.—HAB. Trinidad!, *Cr.*; [Brazil to Montevideo].

6. OTTONIA, *Spreng.*

Bracts cucullate, usually at the base of a pedicel. *Stamens* 4 (–3), inserted around the ovary. *Stigmas* 4, sessile. *Pericarp* baccate, tetragonal.—Shrubs; leaves, nodes, *and* aments *as in* Artanthe, *but the flowers at length usually racemose: pedicels jointed with the flower.*

55. **O. Vahlii,** *Kth.* Smooth, glabrous; leaves ovate, pointed, broadly cuneate at the base, papery, opaque; *berries pedicellate,* somewhat longer than their pedicel, rounded at the base, mucronate with a bluntish point.—*Vahl, Eclog. t.* 1.—Piper ovatum, *V.*—Leaves 8″–6″ long, 3½″–3″ broad: veins equidistant, 12–15-jugal: petiole channelled, naked, 6‴–4‴ long; aments 3″–2″ long: peduncle as long as or shorter than the petiole.—HAB. Trinidad!, *Pd.*, *Cr.*, in woods, Arima, Maraccas.

LIX. CHLORANTHEÆ.

Flowers naked. *Ovary* simple: ovule single, pendulous, atropous. *Embryo* minute, enclosed within the top of the fleshy perisperm.—Leaves *opposite, inserted into a stipular sheath.*

The aromatic properties are the same as in *Piperaceæ*.

1. HEDYOSMUM, *Sw.*

Flowers ♂ monandrous, ebracteate, amentaceous, ♀ bracteate, spicate. *Pericarp* drupaceous.—Shrubs; leaves *serrate.*

1. **H. nutans,** *Sw.* *Leaves lanceolate-linear,* acuminate, serrate beyond the base, glabrous, shortly petioled: inflorescence monœcious; ♂ aments ovoid-oblong, blunt, nodding; ♀ *flowers alternate* along the angular branchlets of the 3-many-parted corymbs.—*Sw. Fl. t.* 18. *f. sup.*—Leaves 5″–3″ long, 10‴–8‴ broad: petiole 3‴ long, as long as the sheath. —HAB. Jamaica!, all coll., in mountain-woods at 1000′–4000′ alt.

2. **H. arborescens,** *Sw.* *Leaves elliptical-lanceolate* with a bluntish point, serrate beyond the middle or the base, glabrous, petioled; inflorescence unisexual; ♂ . . .; ♀ *flowers clustered:* clusters opposite in interrupted, trifid spikes, the lateral branches of which are exceeded by the central one.—A high shrub, 12′–16′ high; leaves 4″–2″ long, 18‴–8‴ broad: petiole 8‴–4‴ long, as long as the sheath.—HAB. Jamaica!, *Macf., Pd., March,* in mountain-woods; Dominica!, *Imr.*

LX. TEREBINTHACEÆ.

Stamens bi-uniseriate, inserted into or below a disc. *Pistil* syncarpous or reduced, often with a single ovary-cell developed: ovules 1–2 in each cell. *Pericarp* usually drupaceous. *Embryo* exalbuminous.—Woody plants; leaves *usually compound: stipules abortive.*

The bark contains resin, balsam, or gum, but the leaves are generally devoid of pellucid dots (with the exception of *Amyris*). In several genera the fruit is eatable (*Mangifera, Anacardium, Spondias*), while the milk of other is poisonous (*Comocladia*). *Rhus* and *Astronium* afford good timber; the furniture-wood of *Astr. obliquum* resembles mahogany.

TRIBE I. *BURSERACEÆ.—Ovary-cells* 5–1, *all ovuliferous: ovules* 2 *in each cell.*

1. BURSERA, *L.*

Flowers polygamous. *Calyx* 3–5-partite. *Petals* 3–5, valvate. *Stamens* 6–10, perigynous: anthers oblong. *Ovary* 3-celled: style 3-lobed at the top. *Pericarp* drupaceous, 3–(2)-valved, 1-seeded usually by abortion. *Cotyledons* corrugate.—Gummiferous trees; leaves *impari-pinnate or unifoliolate: leaflets quite entire, petiolulate;* racemes *axillary and terminal: flowers fascicled.*

1. **B. gummifera,** *L.* Leaflets 9–3 (13–1), ovate-oblong, usually pointleted, hairy beneath or glabrate; flowers precocious; putamen ovate, blunt, 3-gonal: facets convex.—*Sl. t.* 199. *f.* 1, 2; *Jacq. Amer. Pict. t.* 96; *Desc. Fl.* 2. *t.* 97.—B. acuminata, *W.* B. simplicifolia, *DC.?*—A lofty tree, from all parts of which gum resin exudes on the slightest touch; leaflets variable, usually 3″ long; petals oblong, 1‴ long, much exceeding the calyx; putamen 3‴ long, with a prominulous, ovate area (1½‴ long) on the inner side.
α. Rhachis of the racemes villous-pubescent.
β. glabrata. Rhachis glabrous.
HAB. Bahamas!; Jamaica!, *M'Nab,* common in the plains; Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba, Panama!, Venezuela].

2. ICICA, *Aubl.*

Calyx 4–5-toothed. *Petals* 4–5, valvate. *Stamens* 8–10, perigynous: anthers oblong. *Ovary* 4–5-celled: style 4–5-lobed at the top. *Pericarp* leathery, tardily dehiscent, 5–1-pyrenous.—Resinous, glabrous trees; leaves *impari-pinnate or ternate:* leaflets *quite entire, usually leathery, petiolulate;* racemes *or* corymbs *axillary.*

2. **I. heptaphylla,** *Aubl.* Leaflets 5–7, elliptical-lanceolate, acuminate; flowers corymbose: *corymbs short,* 2–4 times exceeded by the aphyllous portion of the petiole: pedicels twice as long as the flowers, usually ternate; petals 4, revolute on the top, pubescent on the margin; drupe . . . .—*Aubl. t.* 130—Amyris ambrosiaca, *Mey.! Esseq.*

I. Copal, *Rich.* (*Cub. t.* 37)?: a form with three or more leaflets.—Leaflets 4″–2″ long, 12‴–6‴ broad; calyx minute: teeth obsolete; petals 1‴ long, including the stamens.—HAB. Jamaica!, *Wright:* S. Lucia!, *Anders.;* S. Vincent!, *Guild.;* Trinidad!, *Pd.;* [Cuba (*ex syn. Rich.*), Guiana!].

3. HEDWIGIA, *Sw.*

Characters of *Icica*, but corolla 4–5-fid.

3. **H. balsamifera,** *Sw.* "Bark whitish; leaflets 3–4-jugal, elliptical-lanceolate, pointed, quite entire; flowers racemose; drupe subglobose, furrowed along the dissepimental lines, glabrous."—*Sw. Fl. t.* 13: *anal.: cor.* 4-fid.—*Tuss. Fl.* 4. *t.* 30: *cor.* 5-fid.—Caproxylon Hedwigii, *Tuss.*—HAB. Nearly all the West Indian islands (*Tuss.*).

4. DACRYODES, *V.*

Flowers diœcious. ♂: *Calyx* adnate to the abortive ovary: limb short, subentire. *Petals* 3, valvate. *Stamens* 6, hemiepigynous: anthers adnate, introrse. ♀: "*Ovary* adherent to the calyx: style simple. *Drupe* one-seeded (by the abortion of the second ovule)."—A balsamiferous tree; leaves *impari-pinnate:* leaflets *quite entire, leathery, opaque;* ♂ corymbs *axillary, compound.*

4. **D. hexandra,** *Gr.*—Amyris, *Hamilt.*—10′–15′ high, glabrous; bark ash-coloured, rugose; leaflets 2–3(–1)-jugal, elliptical-oblong or elliptical-lanceolate, blunt, tapering at the base, veiny beneath, 4″–3″ long, 2″–1″ broad: petiolules 2‴–3‴ long, at length thickish, transversely rugulose; ♂ corymbs pyramidal, shortly peduncled, about 3″ long: ultimate divisions racemose, 7–3-flowered: pedicels 2‴ long; flowers 1½‴ long; calyx very short; petals ovate-roundish; stamens very short, included, incurved: anthers bilocular; "drupe elliptical, pointed."—HAB. Nevis (*Ham.*), Dominica!, *Imr.*, in the mountains; [Portorico].

5. AMYRIS, *L.*

Calyx minute, 4-fid. *Petals* 4, imbricate. *Stamens* 8, hypogynous. *Ovary* 1-celled: ovules 2, pendulous: stigma capitate, sessile. Drupe 1-seeded.—Balsamic, glabrous shrubs or trees; leaves *pellucid-dotted, usually opposite (mixed sometimes with alternate ones on the same stem), impari-pinnate or 1-foliolate;* corymbs *panicled:* flowers *white.*

5. **A. Plumieri,** *DC. Leaflets* 3, ovate, usually bluntish, *green on both sides, crenate:* principal veins distant, prominulous beneath; panicles as long as the leaves; petals spathulate; *anthers roundish,* exserted; *drupe globose, minute, black.*—*Plum. Ed. Burm. t.* 100. —A. maritima, *Sw.* (*non Jacq.*). A. sylvatica, *Macf.!* (*non Jacq.*).—Leaflets 4″–1½″ long, 3″–1″ broad: lateral petiolules 2‴ long; drupe 2‴ diam.—HAB. Jamaica!, *Macf.*, *Pd.*, *March*, common; [Cuba to New Granada!].

6. **A. sylvatica,** *Jacq. Leaflets* 3–5, ovate or deltoid-roundish, pointed, *glaucous beneath,* obsoletely crenulate or subentire: veins reticulated, prominulous on both sides; panicles exceeded by the leaves; petals oval, as long as the stamens; *anthers ovoid-oblong; drupe globose, small, purple.*—*Jacq. Amer. Pict. t.* 108.—A. dyatripa, *Spreng.*—A floridana, *Nutt.*—A. cymosa, *Rchb, in Sieb. Trin.* 29. A. maritima, *Rich. Cub.* (*non Jacq.*).—A shrub, 2′–15′ high; leaflets 1½″ long, 1″ broad: lateral petiolules 2‴ long; drupe 2‴ diam. —HAB. Jamaica!, *Pd.;* Trinidad, *Sieb.;* [Florida!, Cuba! to New Granada].

7. **A. maritima,** *Jacq. Leaflets* 3–1, ovate, with a bluntish point, quite entire, or obsoletely crenulate, *green on both sides,* or paler beneath: veins reticulated, prominulous on both sides; corymbs exceeded by the leaves; petals oval, exceeding the stamens; *anthers ovoid-oblong; drupe globose, as large as a pea, black.*—A. Lunani, *Spreng.*—Nearly allied to the preceding, and possibly a seashore variety of the same, but the lateral petiolules longer (3‴ long), and the drupes larger (3‴ diam.). Our Cuba form has crenulate, quite green, 3-foliolate leaves, while the Trinidad specimens have simple leaves and the anthers more roundish.—HAB. Trinidad!, *Lockh.*, *Pd.*, in arid situations of the Boco Islands; [Cuba!].

8. **A. balsamifera,** *L. Leaflets* 5 (7–3), ovate-oblong, ovate-lanceolate or elliptical, *acuminate,* quite entire, or obsoletely crenulate, *green on both sides,* or paler beneath: veins

reticulated, prominulous chiefly above; panicles large, as long as or exceeding the leaves; petals oval, as long as the longer stamens; *anthers roundish; drupe ovoid.—Kth. Nov. Gen. t.* 710. *Desc. Fl.* 3. *t.* 211.—A. toxifera, *W.* A. pinnata, *Kth.* A. sylvatica, *Rich. Cub.* (*non Jacq.*).—6′–15′ high; leaflets 5″–2″ long, 2″–9‴ broad; drupe 3‴–4‴ long, 2‴ broad. —HAB. Jamaica!, all collect., common in the mountains; [Cuba!, Venezuela!, New Granada!].

Robinson's Jamaica species, quoted from Lunan in DC. Prodr., do not belong to this Order.

TRIBE II. *ANACARDIACEÆ.—Ovary-cells* 5–1: *ovules single in each cell.*

6. SPONDIAS, *L.*

Flowers polygamous. *Calyx* 5–4-fid. *Petals* 5–4. *Stamens* 10–8 (–15), inserted below an hypogynous disc. *Ovary* 5(–3)-celled: cells all fertile: styles short, as many as there are cells. *Pericarp* drupaceous, marked around the top with the distant rudiments of the styles.—Trees; leaves *impari-pinnate, glabrous;* flowers *racemose or panicled.*

9. **S. lutea,** *L.* Leaflets 3–8-jugal, petiolulate, ovate-lanceolate or lanceolate, acuminate, subentire or serrulate; *racemes panicled,* often exceeding the leaves; drupe ovoid (2″ long). —*Sl. t.* 219. *f.* 1, 2. *Tuss. Fl.* 3. *t.* 28. *Desc. Fl.* 6. *t.* 397.—S. Monbin, *Jacq.*, cytherea, *Tuss.*, graveolens, *Macf.*, Myrobalanus, *Mey.!*, *Esseq.*—A high tree; panicle 6″–12″ long: flowers yellowish-white; drupe yellow.—HAB. Jamaica!, *Al.*, *Wils.*, *March,* common; S. Vincent!, *Guild.;* [Cuba to Venezuela, Panama!].

10. **S. purpurea,** *L.* "Leaflets 8–10-jugal, shortly petiolulate, elliptical-oblong, bluntish, usually serrate; *racemes* simple, *few-flowered,* much shorter than the leaves; drupe obovoid (1″ long)." *Sl. t.* 219. *f.* 3–5. *Jacq. Amer. Pict. t.* 131. *Tuss. Fl.* 3. *t.* 8. *Desc. Fl.* 5. *t.* 336.—S. Myrobalanus, *Jacq.*, cironella, *Tuss.*, lutea, *Macf.*—"A low tree; leaves deciduous: racemes lateral; flowers purplish; drupe yellow or tinged with purple." HAB. Jamaica (*Jacq.*), common; [Cuba to New Granada].

7. RHUS, *L.*

Calyx 5-partite or 5-lobed. *Petals* 5. *Stamens* as many, inserted into a perigynous disc. *Ovary* 1-celled: ovule pendulous from an ascending, central funiculus: styles 3, or stigmas subsessile, as many. *Pericarp* drupaceous, or dry, indehiscent.—Leaves *impari-pinnate, or* 3(–1)-*foliolate;* flowers *panicled, small.*

11. **R. Metopium,** *L.* Leaflets 2 (3–1)-jugal, oval-roundish, emarginate or rounded at the top, quite entire, long-petiolulate, glabrous; *flowers hermaphrodite,* corymbose: corymbs in axillary, racemiform panicles; calyx 5-lobed; stigmas subsessile; drupe ovoid-oblong, scarlet.—*Sl. t.* 199. *f.* 3. *Br. Jam. t.* 13. *f.* 3. *Desc. Fl.* 2. *t.* 79.—A tree, 15′–40′ high; leaflets 1″–1½″ long.—HAB. Jamaica!, all collect., common on limestone hills; [Cuba].

8. COMOCLADIA, *P. Br.*

Flowers polygamous. *Calyx* 3(–4)-partite, coloured. *Petals* 3 (–4). *Stamens* as many, inserted into a perigynous disc. *Ovary* of *Rhus:* stigmas 3, sessile. *Pericarp* drupaceous.—Stem *nearly simple;* leaves *impari-pinnate, approximate at the top of the stem or the branches;* flowers *dark-purple, small, fascicled, or glomerate along the racemiform, distant branches of a loose panicle.*

12. **C. integrifolia,** *Jacq.* *Leaflets* 8–10-*jugal, petiolulate, glabrous* or glabrate beneath, *quite entire,* oblong, pointed, subtruncate at the base, inferior decrescent, ovate; panicle puberulous or glabrate, as long as the leaves: flowers fascicled; drupe oblong.—*Sl. t.* 222. *f.* 1. *Desc. Fl.* 2. *t.* 86.—Stem 10′–30′ high; leaves 1′–2′ long; flowers ½‴ long; drupes dark-purple.—HAB. Jamaica!, *Dist.*, *Pd.*, *Al.*, *March,* common.

13. **C. propinqua,** *Kth.* *Leaflets* 5-*jugal, sessile,* glabrate above, *rusty-pilose beneath,* oblong, blunt, subtruncate at the base, entire, inferior smaller; panicle rusty-pilose, as long as the leaves: flowers glomerate; drupe ....—Leaves 6″, flowers ½‴ long.—HAB. Jamaica!, *March;* [Cuba].

14. **C. ilicifolia,** *Sw.* *Leaflets* 9–10-*jugal, sessile, glabrous,* 3–5-*spinose,* with the spines proceeding from the midrib and principal veins, ovate-deltoid, subcordate at the base; panicle exceeded by the leaves: flowers glomerate; drupe "oblong."—*Plum. Ed. Burm. t.* 118.—Drupes red.—HAB. S. Kitts!, Antigua!, *Nichols.*, on limestone-rocks.

9. ASTRONIUM, *Jacq.*

Calyx 5-partite: segments excrescent with the fruit, at length subscariose. *Petals* 5. *Stamens* as many, inserted into a perigynous disc. *Ovary* 1-celled: ovule attached to the top of the cell: styles 3, short. *Achenium* membranaceous.—Trees; leaves *impari-pinnate, glabrous;* panicles *lateral or axillary.*

15. **As. obliquum,** *Gr.* (*n. sp.*). Leaves coetaneous: leaflets 3–4-jugal, ovate-lanceolate, pointed, quite entire, petiolulate, lateral ones oblique at the base; panicle axillary: flowers hermaphrodite or polygamous.—Leaflets $2\frac{1}{2}''$–$2''$ long, $1''$ broad, leathery, somewhat shining: principal veins straightish, 8–15-jugal; panicle glabrous, nigrescent, $3''$–$4''$ long: branches distant; calyx $1'''$ long, at length $5'''$ long, with a very short tube: segments spathulate-oblong, blunt, exceeding a little the corolla; petals oval, imbricative, twice as long as the stamens; anthers introrse, ovoid-oblong; ovary oblong, exceeding the stamens; fruit (immature) nearly as long as the excrescent calyx.—HAB. Trinidad!, *Pd.*, in the northern mountain-woods.

10*. MANGIFERA, *L.*

Flowers polygamous. *Calyx* 5(–4)-partite, deciduous. *Petals* 5 (–4). *Stamens* perigynous: 1–2 fertile, usually 4–3 sterile. *Ovary* 1-celled: ovule ascending: style simple, curved. *Pericarp* drupaceous: putamen bivalved. *Radicle* inferior, ascending.—Trees; leaves *simple, quite entire;* panicle *large, terminal.*

16*. **M. indica,** *L.* Leaves leathery, glabrous, oblong-lanceolate or lanceolate, pointed, petioled, panicle pubescent; drupe glabrous.—*Tuss. Fl.* 2. *t.* 15. *Desc. Fl.* 1. *t.* 25.—Drupes ovate or ovoid, $2''$–$3''$ long, variable in shape and colour. HAB. Naturalized in Jamaica! and in the Caribbean islands!; [introduced from the East Indies, naturalized in all tropical countries.]

11. ANACARDIUM, *L.*

Flowers polygamous. *Calyx* 5-partite, deciduous. *Petals* 5. *Stamens* 10–9, perigynous: 1–4 of them in ♂ fertile. *Ovary* 1-celled: ovule ascending: style simple, curved. *Pericarp* leathery, indehiscent, on the top of the enlarged, pyriform pedicel. *Radicle* inferior, ascending.—Trees; leaves *simple, quite entire;* panicle *with the distant branches corymbiferous.*

17. **A. occidentale,** *L.* Leaves leathery, glabrous, obovate or oval, rounded or emarginate at the top, shortly petioled; bracteoles ovate, acuminate: one flower exceeding the rest; fruit with a deep lateral notch.—*Tuss. Fl.* 3. *t.* 13. *Desc. Fl.* 7. *t.* 507.—$15'$–$20'$ high; petals exserted, linear, acuminate, recurved; fruit $1''$ long: its pedicel red or yellow, about $3''$ long, $2''$ broad.—HAB. Jamaica! to Trinidad!, common; [Cuba! and Mexico to Brazil!: naturalized in all tropical countries].

LXI. JUGLANDEÆ.

Flowers unisexual, apetalous, ♂ amentaceous. *Stamens* inserted into the torus. *Pistil* syncarpous or reduced: ovules 1–4: stigma large, papillose, usually 2-partite, with the long divisions subcylindrical, revolute. *Drupe* 1-seeded. *Embryo* exalbuminous, oily: cotyledons large, fleshy, anfractuose-sinuate: radicle superior.—Woody plants; leaves *compound, exstipulate.*

Bitter and aromatic properties prevail in the Walnut-tribe.

1. PICRODENDRON, *Planch.*

Flowers ♂ "amentaceous;" ♀ solitary: calyx free, exinvolucrate, 5-partite, with the

segments unequal. *Ovary* 2-celled: ovules 2 in each cell, anatropous, collateral, pendulous from its top. *Style* 2-partite: divisions long, linear, revolute. *Drupe* 1-celled by abortion, 1-seeded, with the rudiment of the septum persistent: putamen at length sub-bivalved. *Seed* sulcate, 2-lobed at the top: testa membranaceous, produced internally as an integument of the anfractuosities of the embryo: cotyledons contiguous, many-plaited.—A shrubby tree; leaves *ternate;* ♂ "aments *peduncled, axillary*" (*ex ic. Sl.*), ♀ *in the axils of young leaves, peduncled.*

1. **P. Juglans,** *Gr.*—*Sl. t.* 157. *f.* 1. *Rich. Cub. t.* 30.—Juglans baccata, *L.* Rhus arborea, *Macf.!* (*non DC.*). Schmidelia macrocarpa, *Rich. Cub.* Picrodendron arboreum, *Planch.!*—About 20′ high; leaflets lanceolate-oblong or elliptical-oblong, rounded at the top or bluntish, petiolulate, revolute on the margin, pubescent or glabrate beneath, with the down usually persistent along the midrib, 2″–3½″ long, nearly as long as the common petiole; peduncle of ♀ slender, pubescent, half as long as the petiole: calyx-segments linear, blunt, 1‴–2‴ long, 3–4 times exceeded by the papillose style-segments; drupe ovoid-globose, orange-yellow, 8‴–12‴ long, 6‴–10‴ broad.—Hab. Jamaica!, *Macf.*, *March,* in the southern arid plains between Spanish-town and Kingston; [Cuba!, on maritime rocks near Matanzas, *Rugel*].

Walnuts, said to be of *Juglans cinerea,* L., have been sent to the Kew Museum from S. Kitts.

LXII. AMENTACEÆ.

Flowers unisexual, apetalous, ♂ or all amentaceous. *Pistil* syncarpous or reduced: ovules 1–2 in each cell: stigma divided. *Fruit* indehiscent, 1-seeded. *Embryo* exalbuminous: radicle superior.—Woody plants; leaves *simple* (*or abortive*).

Tribe I. *MYRICEÆ.—Flowers naked, amentaceous. Stamens* 2–6 (-8). *Ovary 1-celled: ovule single, basilar, atropous: stigma bipartite.*—Shrubs; leaves resinous-dotted beneath. The bark exudes aromatic resin or wax.

1. MYRICA, *L.*

1. **M. microcarpa,** *Benth.!* Leaves spathulate or lanceolate, serrulate chiefly beyond the middle, or subentire, puberulous above or glabrate: ribs puberulous beneath; *aments diœcious,* serotinous, subsolitary in the axils, ♂ shortly cylindrical, ♀ ovoid; ♂ bracts wedge-shaped: stamens 4 (–5): filaments united to the middle: column filiform, hairy; ♀ bracts caducous; *fruit* drupaceous, *ovoid, minute* (1‴ long).—M. xalapensis, *Pœpp. Cub.!*—Leaves variable.—Hab. Jamaica!, all collect., in the high mountains, Port Royal to the forest the summit of the Blue Mountains; [Cuba!, Guiana!].

Tribe II. *CASUARINEÆ.—Flowers naked, amentaceous, involucrate. Stamen* 1, *excrescent. Ovary* 1-*celled: ovule single, pendulous: stigma bipartite.*—Aphyllous, woody plants; ultimate branches striated: nodes encircled by a toothed leaf-sheath.

2. CASUARINA, *L.*

2*. **C. equisetifolia,** *Forst.* Branchlets filiform, simple: furrows 6–8: teeth of the sheath as many, convex-keeled on the back; ♂ *aments* terminal, *clavate-linear,* ♀ lateral, shortly peduncled, at length cylindrical-ovoid.—A high tree.—Hab. Naturalized in Jamaica!, *Wils.;* Trinidad; [introduced from the East, now ranging through all tropical countries].

LXIII. LEGUMINOSÆ.

Calyx with the odd division distant from the axis. *Stamens* usually 10. *Carpel* mostly solitary, free: style oblique. *Ovules* sutural, hemitropous or anatropous. *Fruit* leguminous. *Seeds* exalbuminous.—Leaves *stipulate, compound or reduced;* inflorescence *centripetal.*

Of nutritions *Leguminosæ* the West Indies afford,—the beans of *Phaseolus, Dolichos, Vigna, Canavalia, Cajanus, Arachis*, and of the cultivated *Vicieæ ;* the tubercles of *Pachyrrhizus angulatus* and of *Stenolobium cœruleum ;* the pulp of *Inga vera, ingoides,* and *setifera*, of *Hymenæa* and of *Prosopis (Algaroba).* Cattle feed chiefly on *Trifolieæ, Vicia sativa*, and on the pods of *Calliandra Saman.* A diluent, nutritious drink is prepared from *Abrus.* Gum is obtained from *Prosopis juliflora* and *Acacia arabica*, oil from *Arachis.* Medical substances are,—the purgative pulp of *Tamarindus indica* (Tamarind), and of *Cassia Fistula ;* the drastic leaves of *Cassia obovata* (Senna) ; the bitter, emetic kernels of *Guilandina ;* the diuretic *Pithecolobium Unguis-cati,* and *Mucuna pruriens ;* the anthelmintic bark of *Andira inermis ;* the stomachic *Rhynchosia phaseoloides ;* the balsam of *Copaifera officinalis* (Copaiva), and similar substances occurring in *Myrospermum frutescens* and *Pterocarpus Draco ;* several powerful astringents, viz. *Acacia Catechu, Lebidibia coriaria, Hæmatoxylon, Brownea.* The poisonous *Piscidia* and *Tephrosia toxicaria* are both used to intoxicate fish. The famous pigments in this Order are the Indigo (*Indigofera tinctoria* and *Anil*, both generally cultivated), the Braziletto (*Peltophorum Linnæi*), and the Campeachy- or log-wood (*Hæmatoxylon*). Timber-trees and valuable woods are numerous : *Brya* (a hard wood), *Piscidia, Platymiscium, Ormosia, Hæmatoxylon, Peltophorum* (a cabinet wood), *Hymenæa, Copaifera, Mora excelsa* (one of the best timber-trees in Trinidad and Guiana), *Prosopis juliflora* (wood for fuel), *Piptadenia peregrina* (Humboldt's Niopo-tree), *Calliandra latifolia* (wood for axe-handles), *Pithecolobium filicifolium* and *micradenium* (both valuable), *Inga vera*, and other *Mimoseæ.*

TRIBE I. *PAPILIONACEÆ.—Flowers papilionaceous. Standard exterior in the bud. Stamens perigynous. Embryo mostly curved.*

SUBTRIBE 1. *GENISTEÆ.—Stamens monadelphous. Wings foveolate.*—Leaves palmate, or devoid of leaflets.

1. CROTALARIA, *L.*

Standard cordate. *Keel* falcate. *Anthers* alternately unequal. *Legume* inflexed, usually oblong. — Herbs *or* shrubs ; flowers *usually racemose :* racemes *opposite the leaves or terminal.*

* *Leaves devoid of leaflets* (*i.e.* phyllodia).

† *Stipules decurrent.*

1. **C. stipularis,** *Desv.* Annual, erect, *subhirsute-pubescent ;* leaves oval or lanceolate, sessile : *stipules broadly decurrent,* with a *semilunar, incurved top ;* peduncles lateral, elongated, few-flowered ; calyx deeply 5-fid, usually as long as the corolla : segments lanceolate ; legume oblong, glabrous, shortly stipitate.—*Mart. Fl. Bras.* 24. *t.* 3 ; *Desc. Fl.* 6. *t.* 434—C. sagittalis, *Desv.*—Usually suffrutescent, 1′ high or higher ; down erect or spreading ; flowers yellow ; legume 1″ long.

α. Leaves oval, large (2″ long).

β. oblongata. Upper leaves oblong-lanceolate, blunt (2″ long).

γ. sericea. Down sericeous ; leaves lanceolate, bluntish (1′ long) : upper ones small (6‴ long).—C. Espadilla, *Kth.*

HAB. Dominica !, *Imr.* (*α, γ*), S. Vincent !, *Guild. ;* Trinidad !, *Lockh. ;* [Guadeloupe ! (*β*) ; Guiana to Brazil !].

2. **C. pterocaula,** *Desv.* Annual, virgate, subsericeous-pubescent ; leaves linear or lanceolate-linear, acuminate, sessile : *stipules narrowly long-decurrent, with a short, incurved-subulate top ;* peduncles few-flowered ; calyx 5-partite, nearly as long as the corolla : segments lanceolate ; legume oblong, glabrous, shortly stipitate.—*Mart. Fl. Bras.* 24. *t.* 2.—C. fruticosa, *Mill. in Macf.*—2′–4′ high, nearly branchless ; leaves 3″–1″ long, 3‴–2‴ broad ; flowers yellow, with a purple-striate standard ; legume 1½″–1″ long.—HAB. Jamaica !, *Pd. ;* Trinidad !, *Cr.*, in savannahs ; [Veraguas, New Granada !, Brazil !, Peru !].

†† *Stipules sessile, or obsolete ;* (species of East-Indian origin.)

3*. **C. verrucosa,** *L.* Annual, erect, glabrescent ; branches and peduncles 4–3-angled ; leaves ovate, shortly petioled : *stipules sessile, semilunar, rounded, reflexed ;* racemes many-

flowered, peduncled: calyx bilabiate to the middle, half as long as the corolla: superior lobes ovate, inferior lanceolate; legume oblong, sessile, *pubescent* with appressed down. —*Bot. Mag. t.* 3034.—Leaves blunt in the West Indian form; flowers variegated-blue.—HAB. Jamaica!, a common weed in the fields; Bahamas! and Caribbean Islands!; [East Indies!].

4*. **C. sericea,** *Retz.* (*non Burm.*). Stem erect, obtuse-angled, glabrous; leaves lanceolate-oblong, shortly petioled, blunt, mucronulate, glabrous above, subsericeous-pubescent beneath, pellucid-dotted: *stipules sessile, semi-sagittate, reflexed;* racemes terminal, elongated, many-flowered: the lowest bracts sterile; calyx bilabiate, exceeded by the corolla: superior lobes ovate, inferior ovate-lanceolate; *legume* oblong, shortly and broadly stipitate, *glabrous.*—C. Leschenaultii, *Macf.* (*non DC.*).—Habit of a stout *Lupinus;* stem 2′–3′ high; flowers bright-yellow.—HAB. Naturalized in Jamaica!, *Wils.;* [East Indies!].

5*. **C. retusa,** L. Annual; stem erect, striate, subsericeous-pubescent or glabrate; leaves spathulate, very shortly petioled, rounded or retuse at the top, glabrous above, subsericeous-pubescent beneath, pellucid-dotted: *stipules minute,* subulate-setaceous, *or wanting;* racemes terminal, elongated, many-flowered; calyx bilabiate, exceeded by the corolla: superior lobes ovate, inferior lanceolate or ovate-lanceolate; *legume* oblong, very shortly and broadly stipitate, *glabrous.*—*Bot. Mag. t.* 2560.—C. sericea, *Burm.* (*Ind. t.* 48. *f.* 1): probably a form with mucronate leaves.—1′–2′ high; flowers yellow; the standard variegated.—HAB. Jamaica!, very common; Bahamas!, Caribbean Islands!, Trinidad!; [Cuba to Brazil!, East Indies!].

6*. **C. juncea,** *L.* Annual; stem erect, striate-cylindrical, sericeous-pubescent; leaves linear or oblong-linear, mucronate, very shortly petioled, sericeous-pubescent chiefly beneath, obsoletely dotted: *stipules minute,* setaceous; racemes terminal, elongated, with many distant flowers; calyx tomentose, 5-partite or bilabiate, exceeded by the corolla: segments lanceolate-linear (the inferior sometimes cohering at the top); *legume* oblong, subsessile, *villous-tomentose.*—*Bot. Mag. t.* 490, 1933.—C. fenestrata, *Sims.*—Stem virgate, 2′ high; flowers yellow.—HAB. Jamaica!, *March;* [East Indies].

7*. **C. tetragona,** *Roxb.* Suffrutescent; *branches acutely tetragonal,* pubescent; leaves elongated, lanceolate-linear, acuminate, very shortly petioled, strigose-pubescent or glabrate: *stipules minute,* setaceous; racemes terminal and lateral, with many distant, *resupinate flowers;* calyx rusty-velvety, deeply bilabiate, exceeded by the corolla: segments lanceolate (the inferior usually cohering at the top); legume oblong, sessile, tomentose.—*Bot. Repos. t.* 593.—Inferior leaves often 10″ long, 8‴ broad; calyx large, with a dark-rusty tomentum; flowers yellow.—HAB. Jamaica!, *Al.;* S. Andrews, in gravelly river-beds; [East Indies].

8*. **C. nana,** *Burm.* Annual; stem hairy with appressed down, low, cylindrical; leaves oblong-linear, mucronulate, shortly petioled, strigose-pubescent chiefly beneath: *stipules none; peduncles* lateral, *few-flowered;* calyx deeply bilabiate: superior lobes and inferior segments lanceolate; *legume* oblong, subsessile, *glabrous,* twice as long as the calyx.—*Burm. Ind. t.* 48. *f.* 2: agreeing exactly with our plant, which is in fruit, while Wight and Arnott's diagnosis corresponds less.—Stem 4″ long; legume 8‴ long, 3‴ broad.—HAB. Jamaica!, *Wullschl.*, Manchester at Fairfield; [East Indies].

9*. **C. fulva,** *Roxb.* Shrubby; branches cylindrical, pubescent or sericeous; leaves oblong-lanceolate, blunt, mucronulate, very shortly petioled, sericeous-pubescent or glabrate: *stipules none; racemes compound, in a terminal panicle;* calyx 5-partite, sericeous on the outside, exceeded by the corolla, excrescent: segments flat, ovate, bluntish; *legume oval,* sessile, *villous,* enclosed within the calyx.—C. Berteriana, *DC.*—10′ high; down appressed, whitish or fulvous.—HAB. Naturalized in Jamaica!, *Bancr.*, *Wils.;* S. Vincent!, *Guild.;* [East Indies!].

** *Leaves 3-foliolate, long-petioled.*

10. **C. pumila,** *Ort.* Annual, ascending, diffuse, pubescent or glabrate; leaflets 3, ovate, oblanceolate, or obcordate: stipules minute, deciduous; *racemes* few-flowered, *corymbiform, terminal;* calyx 5-fid, exceeded by the corolla: lobes ovate, pointed; keel with a straight, horizontal beak; *legume* short, obovate-oblong, *sessile, puberulous,* much longer than the calyx.—C. lupulina, *DC.* C. litoralis, *DC.* C. dichotoma, *Grah.!* C. tepicana, *Hook. Arn.!*

C. puberula, *J. D. Hook.* !—1′ high, or lower; leaflets 8‴–3‴, standard 4‴, legume 6‴ long.
α. Leaflets blunt or subretuse.
β. *obcordata*. Leaflets smaller, obcordate.
HAB. Jamaica !, *Al.*, *March*, *M'Nab*, rare; Bahamas !, Antigua !, *Nichols.*, *Wullschl.*; S. Vincent !, *Guild.*; [Cuba ! (α, β); New Mexico !, Texas !, Mexico !, Venezuela !; Galapagos !].

11. **C. lotifolia,** *L.* Shrubby, diffuse; leaflets 3, elliptical-lanceolate, sericeous beneath (or glabrescent): stipules minute; *peduncles* short, *axillary*, 1- or *few-flowered*; calyx deeply 5-fid, shortly exceeded by the corolla: lobes lanceolate; *legume* spathulate-oblong, *puberulous, stipitate.*—*Sl. t.* 176. *f.* 1, 2.—Leaflets 1½″–1″, flowers 6‴, legume 1½″ long.—HAB. Jamaica !, *Pd.*; [trop. Africa].

12. **C. incana,** *L.* Annual; stem erect, pubescent; leaflets 3, obovate or oval, hairy beneath or glabrescent: stipules minute, deciduous; *racemes* opposite to the leaves, 5-*many-flowered*; calyx deeply 5-fid, exceeded by the corolla: lobes ovate-lanceolate; keel bearded on the margin, with a horizontal beak; *legume* pendulous, oblong, *pilose* with spreading hairs, subsessile.—*Sl. t.* 179. *f.* 1.—C. cubensis, *DC.* Chrysocalyx Schimperi, *Hochst.* !—Suffruticose, 2′–4′ high; leaflets 2″–1″ long; flowers greenish-yellow, 5‴–6‴ long; legume 16‴ long, 5‴ diam.—HAB. Jamaica !, *Macf.*, *March*, *Al.*, common; Antigua !, *Wullschl.*; Dominica !, *Imr.*; S. Vincent !, *Guild.*; [Cuba and Mexico ! to Brazil !, Galapagos !; trop. Africa !].

13. **C. anagyroides,** *Kth.* Shrubby; stem erect, puberulous; leaflets 3, ovate-lanceolate, pointed, subsericeous-pubescent beneath and glabrate: stipules minute, deciduous; *racemes many-flowered*; calyx sericeous, 5-fid or bilabiate, twice exceeded by the corolla: lobes subulate-lanceolate; *keel* bearded on the margin, with a short beak, *equalling the wings*; *legume* spreading, oblong, *puberulous* with long appressed hairs, stipitate.—C. Dombeyana, *DC.* C. Hookeri, *Arn.*—Leaflets 3″–1½″ long, cuneate at the base; flowers 8‴ long; legume 2″–1½″ long, 6‴ diam.—HAB. Dominica !, *Imr.*; S. Vincent !, *Guild.*; Trinidad !, *Cr.*; [Mexico !, Guiana !, Brazil !, Montevideo !, New Granada !, Peru !].

14. **C. striata,** *DC.* Herbaceous or suffrutescent; stem erect, puberulous; leaflets 3, elliptical, mucronulate, puberulous or glabrate beneath: stipules obsolete or none; *racemes* terminal, elongated, *many-flowered*; calyx puberulous, 5-fid or bilabiate, more than twice exceeded by the keel: lobes subulate-lanceolate; *keel* puberulous on the margin with a long subulate beak, *twice as long as the wings*; legume cernuous, oblong, slightly puberulous with appressed minute down, stipitate.—*Bot. Mag. t.* 3200.—C. Brownei, *Berter.*—3′–6′ high; leaflets 4″–1½″ long; flowers about 6‴ long, yellow, with purplish veins; legume 1½″ long, 3‴–4‴ diam.—HAB. Jamaica !, *Pd.*, *Wils.*, *Al.*, *March*, *Wullschl.*, common; [Brazil !, tropical Africa !, East Indies !].

*** *Leaves* 5-*foliolate, long-petioled.*

15*. **C. quinquefolia,** *L.* Annual, erect, puberulous or glabrescent; *leaflets* 5, lanceolate, bluntish: stipules minute; racemes many-flowered: bracts reflexed; calyx glabrous, 5-fid, twice exceeded by the corolla: lobes ovate, pointed; keel glabrous on the margin, puberulous along the dorsal line; "legume obovate-oblong, glabrous, stipitate."—*Rheed. Mal.* 9. *t.* 28.—Leaflets 3″ long, inferior smaller; flowers 10‴ long.—HAB. Naturalized in Jamaica !, *Wils.*; [East Indies].

2*. ULEX, *L.*

Calyx bilabiate nearly to the base: superior lip 2-, inferior 3-toothed. Anthers unequal. Legume inflated, short.—Spiny shrubs; leaves *transformed into spinescent phyllodia.*

16*. **U. europæus,** *L.* Erect, diffuse, pubescent; flowers axillary: bracteoles oval; keel straight, as long as the wings; legume oblong, villous, exceeding the calyx.—Shrub 3′–6′ high; flowers yellow.—HAB. Naturalized in the high mountains of Jamaica (*Macf.*); [introduced from Western Europe].

SUBTRIBE 2. *TRIFOLIEÆ.*—*Stamens diadelphous.*—Leaves 3(–5)-foliolate: leaflet-veins usually produced to the margin.

3*. TRIFOLIUM, *L.*

Petals marcescent, including the legume, all or part of them connected below.—Flowers *capitate or umbellate.*

17*. **T. repens,** *L.* Creeping, perennial, glabrous; leaflets obovate, dentate: stipules subulate above; peduncles axillary: *flowers* umbellate, bracteolate, *white*, at length reflexed; calyx-teeth lanceolate, superior as long as the tube; legume 4-seeded.—HAB. Naturalized in mountain-pastures, Jamaica (*Macf.*), [introduced from Europe].

18*. **T. filiforme,** *L.*, *Wahlenb.* Annual; leaflets obovate, emarginate, serrulate, the middle petiolulate: stipules semiovate; peduncles axillary: *flowers* shortly pedicelled, 15–3, bracteolate, *yellow*; standard smooth, oblong, tapering into the claw; legume ovoid, 1-seeded, stipitate, shortly mucronate.—T. procumbens, *Soy. Willem.*—HAB. Naturalized in Jamaica!, *Wils.*, common in the mountains at 4000′, [introduced from Europe].

SUBTRIBE 3. *GALEGEÆ. Stamens diadelphous* (*rarely monadelphous*). *Legume mostly bivalved.*—Leaves pinnate (1-foliolate).

4. INDIGOFERA, *L.*

Calyx 5-fid. *Standard* roundish: keel with a subulate spur on each side. *Stamens* diadelphous: anthers apiculate. *Legume* bivalved: seeds usually truncate, separated by spurious dissepiments.—Herbs *or* shrubs; hairs *often attached by their middle*; leaves *impari-pinnate* (–1-*foliolate*); flowers *in axillary racemes, variegated-purplish.*

19. **I. subulata,** *V.* Suffrutescent, *sparingly pubescent with appressed hairs*; leaflets 2(–3–1)-jugal, opposite, oval, mucronate: stipules long, setaceous; *racemes peduncled*, exceeding the leaves: flowers distant; calyx-lobes long, subulate; *legume tetragonal*, elongated, linear, pointed, many-seeded, reflexed.—*Wight Ic.* 2. *t.* 387.—I. scabra, *Rth.* I. mucronata, *Spreng.*, *Macf.!* I. flaccida, *Roxb.!* I. lespedezoides, *Hook. Arn.!* (*non Kth.*).—Branches trailing; leaflets pale beneath, 12‴–8‴ long; flowers 2‴–3‴, legume 2″–1″ long.—HAB. Jamaica!, *Macf.*, *March*, common in mountain-thickets; [Mexico! to Venezuela!; East Indies!].

20*. **I. hirsuta,** *L.* Annual; *stem covered with soft, spreading hairs*; leaflets 2–5-jugal, opposite, obovate-oblong, sericeous-pubescent chiefly beneath: stipules long, setaceous; *racemes peduncled*, usually exceeding the leaves; calyx-lobes subulate, about as long as the corolla; *legume tetragonal*, linear, mucronate, 4–6-seeded.—HAB. Naturalized in S. Vincent!, *Guild.*; [East Indies! to China!, trop. Australia!, trop. Africa! to Natal!].

21. **I. viscosa,** *Lam.* Annual, suffrutescent; *branches*, petioles, and legumes *glutinous with stipitate glands*; leaflets 4–8-jugal, elliptical-oblong, pubescent with appressed hairs chiefly beneath: stipules long, setaceous; *racemes peduncled, few-flowered*; calyx-lobes subulate; *legume cylindrical*, linear, 12–6-seeded.—*Wight Ic.* 2. *t.* 704. I. inquinans, *W.*—Legumes distant, straight, 10‴–12‴-long.—HAB. Antigua!, *Wullschl.*; [Haiti; trop. Africa!, East Indies].

22*. **I. tinctoria,** *L.* Suffrutescent, slightly pubescent; leaflets 6–4-jugal, opposite, oval, or obovate-oblong: stipules subulate; *racemes sessile*; calyx-lobes triangular; *legume linear*, subcompressed-cylindrical, slightly torulose, somewhat thickened along the lines of dehiscence, many-seeded, deflexed-spreading, straightish or incurved.—*Sl. t.* 179. *f.* 2. *Desc. Fl.* 1. *t.* 17.—I. tinctoria, *α*, *DC.* (*non β*).—Legume 16‴–14‴ long, 1‴ broad.—HAB. Naturalized in Jamaica!, *Macf.*, *Al.*, *March*; [East Indies! to China!; tropical Africa! to Natal!].

23. **I. Anil,** *L.* Suffrutescent, whitish-perberulous on the branches and under side of leaflets; leaflets 3–7-jugal, opposite, spathulate-oblong: stipules subulate; *racemes sessile*; calyx-lobes triangular; *legume oblong-linear*, cylindrical, not torulose, much thickened along the dorsal line, 6–3-seeded, *arcuate-inflexed.*—*Sl. t.* 176. *f.* 3. *Tuss. Fl.* 2. *t.* 9.—I. Anil, *α, β, DC.* (*non γ*). I. tinctoria, *β*, *DC.*—Legume 6‴–5‴ long, 1½‴ broad.—HAB. Jamaica!, all coll., very common; Caribbean Islands!, Trinidad!; [South Carolina! to Brazil!; naturalized in tropical Africa!, East Indies!, China!].

5. TEPHROSIA, *Pers.*

Calyx 5-fid. *Standard* roundish: wings transversely rugulose, usually adhering to the obtuse keel. *Vexillar stamen* adhering to the column above its base (or distinct). *Legume*

flatly compressed, many-seeded.—Leaves *impari-pinnate* (*rarely* 3–1); flowers *racemose*, (*rarely fascicled*), *purplish, blue, or white*; standard *usually sericeous on the outside.*

Sect. 1. EUTEPHROSIA.—*Vexillar stamen adhering. Flowers racemose.*—Leaves pinnate.

24. **T. toxicaria,** *Pers.* Suffrutescent; stem erect, sulcate, velvety; *leaflets* 10–20-jugal, oblong-linear, petiolulate, sericeous-pubescent chiefly beneath: stipules subulate-setaceous; *racemes* terminal and axillary, *many-flowered*, elongated: pedicels fascicled; calyx-lobes ovate, 2 superior ones shorter; standard sericeous; *style pubescent;* legume continuous, pubescent.—*Tuss. Fl.* 1. *t.* 20. *Desc. Fl.* 3. *t.* 183. *Mart. Fl. Bras.* 24. *t.* 8.—Galega, *Sw.* T. Schiedeana, *Schlecht.!*—4′–5′ high; leaflets 1½″–2″, flowers 8‴–10‴, legume 2″ long; corolla blue.—HAB. Trinidad! *Lockh.*; cultivated, rarely wild in Jamaica (*Macf.*); [Mexico! to Brazil!, introduced into the East Indies].

25.* **T. grandiflora,** *Pers.* Shrubby; stem erect, striate, puberulous; *leaflets* 4–6(–9)-jugal, *lanceolate-oblong*, mucronate, petiolulate, pubescent beneath: stipules ovate, pointed, marcescent; *racemes* terminal, *few-flowered:* pedicels solitary; calyx-lobes subulate, the lowest longer; standard puberulous; *style pilose;* legume continuous, ciliate on both margins.—Leaflets 6‴–8‴, flowers 8‴–10″ long; corolla rosy.—HAB. Naturalized in the Blue Mountains of Jamaica!, *Al.*, *Wils.*, in coffee-plantations, up to 4000′; [introduced from the Cape].

26. **T. leptostachya,** *DC.* Annual; stem ascending, often suffrutescent, puberulous, angular above; leaflets 4–6-jugal, obversely lanceolate or obovate-oblong, retuse, usually mucronulate, puberulous beneath: stipules lanceolate-setaceous; racemes terminal or opposite to the leaves: *flowers at length distant*, 2–3 together; calyx-lobes subulate, subequal; *standard* sericeous, *twice as long as the calyx:* keel horizontally incurved; *style glabrous: stigma* capitate, *glabrous* (or with a few hairs); legume continuous, pubescent, spreading, 5–8-seeded.—T. ascendens, *Macf.!*—1′–2′ high; leaflets 6‴–10‴, flowers 4‴ long; corolla pale-purplish.—HAB. Jamaica!, *Macf.*, *M'Nab*, in dry savannahs; [Mexico!, Venezuela!, Brazil!, tropical Africa!].

27. **T. cinerea,** *Pers.* Suffrutescent, diffuse, *hoary-pubescent;* leaflets 4–7-jugal, obversely lanceolate: stipules subulate or lanceolate-setaceous; racemes opposite to the leaves: flowers geminate or solitary; calyx-lobes subulate, subequal; *standard* sericeous, *thrice as long as the calyx;* vexillar stamen slightly adhering; *styles glabrous: stigma long-ciliate;* legume continuous, pubescent, spreading, 5–10-seeded.—Galega, *L.* T. procumbens, *Macf.!* —Stem 1′–1½′ long, usually procumbent; leaflets 6‴–12‴, flowers 5‴–6″ long; corolla rosy.

a. Down appressed, subsericeous.—*Jacq. Ic. Rar. t.* 575.

β. litoralis, Pers. Down spreading, villous.—*Jacq. Amer. Pict. t.* 192.—Galega, *L.*—Leaflets larger.

HAB. Jamaica!, *Macf.*, *Dist.* (*a*), *March* (*β*), in savannahs and on the seashore; Bahamas! (*β*), S. Kitts! (*a*), Antigua!, *Wullschl.*, Dominica! *Imr.*; [Cuba! and Mexico! to Brazil! and Montevideo!].

Sect. 2. PÆGOLOBIUM.—*Vexillar stamen free. Legume tumid on both margins. Flowers fascicled or single, axillary.*—Leaflets 3–1.

28. **T. brevipes,** *Benth.* Shrubby; branches virgate, cylindrical, sericeous-tomentose; leaves shortly petioled: *leaflets* 3–1, linear-lanceolate, blunt, *glabrous above, sericeous-tomentose* and silvery-shining beneath: stipules minute, setaceous; peduncles axillary, 3–1, as long as or exceeded by the petiole; calyx-lobes lanceolate, inferior longer; standard sericeous; style glabrous: stigma penicillate; legume 6–9-seeded, arcuate above, villous-tomentose: down rusty on the tumid margins.—Cytisus sessiliflorus, *Poir.* Rhynchosia, *DC.* Erioseme, *Walp.*—Leaflets 3″–2″ long, 5‴–3‴ broad, shortly petiolulate, striate with numerous, straight, excurrent veins; pedicels 2‴–1‴ long, dilated at the top; calyx 2½‴, standard 4‴ long; wings free from the keel; legume 2″ long, 2½‴ broad.—HAB. Trinidad!, *Cr.*, in savannahs; [Portorico, Guiana, Brazil].

6. CRACCA, *Benth.*

Calyx 5-fid. *Standard* roundish; wings transversely rugulose, free from the pointed

keel. *Stamens* diadelphous. *Legume* flatly compressed, bivalved: seeds separated by spurious dissepiments.—Herbs; leaves *impari-pinnate;* racemes *axillary:* flowers *scattered.*

29. **C. caribæa,** *Benth.* Suffrutescent, sericeous-pubescent (rarely "glabrescent"); *leaflets* 7–9(–3–12)-*jugal*, lanceolate-oblong, mucronate; racemes peduncled, few-flowered; *calyx-lobes twice as long as the tube*, the lowest longer, and exceeding half the keel.—*Jacq. Amer. Pict. t.* 193: the glabrescent form.—Galega, *Jacq.* Tephrosia, *DC.* T. mollis, *Kth.*—Leaflets 8‴–10‴, flowers 5‴–6‴, legume 2″ long; corolla rosy, variegated with white. The old garden-plant, cultivated in Germany at Jacquin's time, is pubescent, and agrees well with our species.—HAB. Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Lucia!, *Anders.;* [Haiti!, S. Thomas!, Central America, Venezuela, Guayaquil!].

7. COURSETIA, *DC.*

Calyx shortly and unequally 5-dentate. *Standard* roundish: wings transversely rugulose, free from the keel. *Stamens* diadelphous. *Style* circinate, pubescent. *Legume* flatly compressed, continuous, shortly stipitate or subsessile, slightly margined on both margins.—Trees *or* shrubs; leaves *abruptly pinnate, with a terminal mucro;* racemes *axillary:* flowers *scattered.*

30. **C. arborea,** *Gr.* (*n. sp.*). *Leaflets* 9–15-jugal, oblong, bluntish, pubescent beneath, at length *glabrescent; racemes* peduncled, *shorter than the leaves;* calyx-teeth triangular, villous on the margin, the superior ones 4 times shorter than the tube; keel shortly falcate; legume linear, elongated, subsessile.—A tree, 20′–40′ high; leaflets 2″–1″ long; racemes 5—many-flowered, pubescent; peduncle subdivided at the base: pedicels 5‴–6‴ long, cernuous, jointed at the top; calyx 2‴ long, pubescent: corolla whitish-violet: standard 8‴ long; legume 5″–3″ long, 3″ broad: stalk included within the calyx.—HAB. Trinidad!, *Lockh.*, *Cr.;* [S. Jean!, Panama!, Venezuela!, Guiana!].

8. SABINEA, *DC.*

Calyx turbinate, truncate-subentire or 5-denticulate. *Standard* roundish, as long as the free, auricled wings, exceeded by the blunt keel. *Stamens* diadelphous. Style incurved, glabrous, exserted. *Legume* flatly compressed, continuous, long-stipitate, linear.—Shrubs; leaves *abruptly pinnate, glabrescent, deciduous:* leaflets *small, mucronate, petiolulate;* flowers *axillary, fascicled or subsolitary, rosy.*

31. **S. florida,** *DC.* *Leaflets* 8–15-*jugal*, oblong or elliptical-oblong; calyx subentire; *wings obovate: keel broad, semiorbicular;* style circinate.—*Vahl, Symb.* 3. *t.* 70.—Robinia, *V.*—Leaflets 4‴, pedicels 12‴–6‴, calyx 1½‴, standard and wings 6‴, keel 8‴ long.—HAB. Dominica!, *Imr.;* [S. Thomas!].

32. **S. carinalis,** *Gr.* (*n. sp.*). *Leaflets* 6-8-*jugal*, oblong; calyx repand-subentire, or obsoletely denticulate: *wings spathulate-oblong: keel elongated, oblong, slightly curved* at the dilated top; style incurved.—Leaflets distant, mucronulate-blunt, glabrous, 6‴–5‴ long, 2‴ broad: petiole hairy; flowers precocious, large, bright-scarlet, fascicled: fascicles 5–3-flowered: pedicels 4″ long; calyx 4‴ long, spreading; wings and recurved standard 1″, keel 16‴–18‴ long; style exserted.—HAB. Dominica!, *Imr.*, on the seashore.

9*. AGATI, *Ad.*

Calyx campanulate, denticulate-repand. *Standard* oval-oblong, exceeded by the free wings and the obtusely falcate keel. *Stamens* diadelphous. *Legume* compressed, elongated, linear, stipitate, tumid on both margins: seeds separated by spurious dissepiments.—A small tree; leaves *abruptly pinnate:* leaflets *many-jugal;* racemes *axillary, few-flowered;* flowers *very large;* legume *pendulous, upwards of* 1′ *long.*

33*. **A. grandiflora,** *Desv.*—*Rheed. Mal.* 1. *t.* 51.—Æschynomene, *L.*—Leaflets pubescent or glabrescent; flowers 3″ long, rosy-white or red (*A. coccinea*, Desv.).—HAB. Naturalized in Jamaica!, and Caribbean Islands!; [introduced from the East Indies].

10. SESBANIA, *Pers.*

Calyx 5-dentate. *Standard* roundish, with a callosity on its claw. *Stamens* diadelphous,

Legume linear, subsessile or shortly stipitate, impressed along both margins, tardily dehiscent: seeds separated by spurious dissepiments.—Virgate shrubs *or* suffrutescent herbs: leaves *abruptly pinnate*: leaflets *often irritable*; racemes *axillary*.

34. **S. ægyptiaca,** *Pers.* *Stem shrubby*, striate; leaflets 10–18-jugal, oblong-linear, glabrous, glaucescent; racemes 3–12-flowered, as long as, or a little shorter than the leaves; calyx thrice shorter than the corolla: teeth triangular; standard dotted with purple; *legume torulose*, compressed, at length subcylindrical, the valves becoming convex: margins tumid.—*Cav. Ic. t.* 314.—S. picta, *Pers.* (*non Lindl.*). S. punctata, *DC.*—Leaflets 8‴–12‴ long, 3‴ broad, not irritable; flowers 6‴, legume 5″-7″ long; corolla yellow.—HAB. Jamaica!, *March*, *Wils.*, on the seashore; [Guiana!, tropical Africa!, Egypt!, East Indies].

35. **S. aculeata,** *Pers.* *Stem* suffrutescent, *prickly*, cylindrical; *leaflets* 20–50-*jugal*, *linear*, glabrous, glaucescent; racemes peduncled, few-flowered, about half as long as the leaves; calyx thrice shorter than the corolla: teeth unequal, anterior short, subulate, posterior triangular; standard dotted with purple; legume compressed, at length biconvex, not torulose, or slightly so, sharply beaked, slightly margined on both margins.—*Jacq. Ic. Rar. t.* 564.—S. muricata, *Macf.!* S. occidentalis, *β*, *Gr. in Pl. Carib.*—Leaflets 6‴–8‴ long, 1‴–1½‴ broad, irritable; flowers 6‴, legume 10″–12″ long; corolla yellow. –HAB. Jamaica!, *Macf.*, along roadsides; Antigua!, *Wullschl.*; S. Vincent!, *Guild.* [tropical Africa, East Indies].

36. **S. sericea,** *DC.* *Stem* suffrutescent, unarmed, cylindrical, *pubescent*, *leaflets* 12–20-*jugal*, *oblong-linear*; racemes short, few-flowered, 4 times or more exceeded by the leaves; calyx thrice shorter than the corolla: teeth subulate; standard dotted with purple; legume compressed, at length biconvex, not torulose, shortly beaked, slightly depressed, tumid on both margins.—S. occidentalis, *Gr. in Pl. Carib.*—Leaflets irritable, 8‴–12‴ long, 2‴–3‴ broad, blunt or retuse-mucronulate; flowers 6‴, legume 8″–10″ long.—HAB. Antigua!, *Wullschl.*; [Guadeloupe!].

37. **S. occidentalis,** *Pers.* *Stem* angular, suffrutescent or shrubby, *glabrous*; *leaflets* 12–20-*jugal*, *oblong-linear*; racemes short, few-flowered, 4 times or more exceeded by the leaves; *calyx* 5 *times shorter than the corolla*: teeth subulate, short; standard dotted with purple: legume compressed, at length biconvex, not torulose, shortly beaked, slightly depressed, tumid on both margins.—*Plum. Ed. Burm. t.* 125. *f.* 1: the flowers are not "hirsute" in the figure, but merely dotted.—*Bot. Reg. t.* 873.—S. picta, *Lind.*—Leaflets 6‴ long, 2‴ broad, slightly irritable; flowers 10‴, legume 8″–10″ long.—HAB. Trinidad (*Bot. Reg.*); [Cuba!, Guadeloupe!].

38. **S. exasperata,** *Kth.* *Stem* angular, suffrutescent or shrubby, *glabrous*; *leaflets* 25–50-*jugal*, *linear*; racemes peduncled, 3–8-flowered, about half as long as the leaves; *calyx* 4 *times shorter than the corolla*: teeth subequal, triangular; *standard not dotted*; legume compressed, at length biconvex, slightly torulose above, channelled on both margins. —Leaflets longer, and flowers larger than in *S. aculeata*, commonly unarmed; leaflets 10‴–12‴ long, 1½‴ broad, irritable; flowers 10‴–12‴, legume 8″–10″ long.—HAB. Jamaica (*Benth.*); Trinidad!, *Cr.*; [Guatemala, Guiana!, Venezuela, Brazil!].

SUBTRIBE 4. *HEDYSAREÆ.*—*Legume lomentaceous*, i. e. *transversely divided into several one-seeded joints, rarely reduced to a single indehiscent joint.*

11. ÆSCHYNOMENE, *L.*

Calyx bilabiate, or 5-fid, bibracteolate. *Standard* roundish, entire: keel cymbiform, its petals distinct at the base. *Staminal column* divided into 2 pentandrous bundles, or entire. *Lomentum* compressed, stipitate: joints many or several.—Shrubs *or* herbs; leaves *irritable*, *impari-pinnate*: stipules *scarious*; racemes *axillary*, *usually few-flowered*.

39. **Æ. sensitiva,** *Sw.* Shrubby or suffrutescent, *glabrous* (or glandular); *leaflets* 15–20-jugal, oblong-linear, *uninerved*: stipules semisagittate; racemes few-flowered; calyx bilabiate; *lomentum long-stipitate*, straight, 9–6-jointed: *joints quadrate*, rectilinear on the superior, slightly curved on the inferior margin.—*Plum. Ed. Burm. t.* 149. *f.* 2.—Branched, 6′ high; flowers whitish, 3‴ long; lomentum-joints 2½‴–3‴ diam.—HAB. Dominica!, *Imr.*, S. Lucia; Trinidad!, *Lockh. Cr.*, in swamps; [Guadeloupe!, Panama!, Ecuador!, Venezuela!, Guiana!, Brazil!, tropical Africa].

40. **Æ. americana,** *L.* *Stem* virgate, *pilose,* herbaceous or suffrutescent; *leaflets* 10–20(–7)-jugal, oblong-linear, oblique at the base, mucronate, 3–4-*nerved;* stipules calcarate; racemes few-flowered; calyx bilabiate; *lomentum shortly stipitate,* incurved, 8–4(–2)-jointed, contracted at the dissepiments: *joints half-round,* rectilinear on the superior, roundish on the inferior margin.—*Sl. t.* 118. *f.* 3.—Stem 3′–2′ high; flowers 3‴ long, yellow or purplish; lomentum-joints glabrescent, 1½‴ diam.—Hab. Jamaica!, all coll., common in wet pastures; S. Kitts!, *Els.;* S. Vincent!, Trinidad!; [Cuba! and Mexico! to Brazil!].

41. **Æ. brasiliana,** *DC.* Stem erect, herbaceous or suffrutescent, glandular-pilose, (or glabrescent); *leaflets* 4–6-*jugal,* obovate-oblong, *uninerved,* veiny: stipules lanceolate; racemes exceeding the leaves, simple or compound: branches few-flowered; calyx 5-fid; *lomentum long-stipitate,* straight, reflexed, 2–4(–1)-jointed, contracted at the dissepiments: *joints half-round,* rectilinear on the superior, rounded on the inferior, flatly depressed margin. —A. paucijuga, *DC.*—Flowers 2‴ long; lomentum-joints 1½‴ diam., glandular or glabrous. —Hab. Trinidad! *Lockh., Cr.,* in savannahs and along roadsides, scarce; [Cuba!, Venezuela! to Brazil! and Peru!].

12. ZORNIA, *Gmel.*

(Myriadenus, *Desv.*)

Calyx bilabiate, bibracteolate. *Standard* roundish, folded: wings transversely rugulose. *Stamens* monadelphous. *Lomentum* compressed: joints many to 2.—Herbs; leaves *digitate:* leaflets 2–4, *usually dotted: stipules with a basilar appendage;* inflorescence *from the uppermost axils or terminal.*

42. **Z. diphylla,** *Pers.* Annual, diffuse; *leaflets* 2, ovate or lanceolate, pointed; flowers distant in peduncled spikes; superior calyx-lip emarginate-obtuse, inferior 3-fid; lomentum-joints 2–7, roundish, convex and muricate, or reticulated, on the sides.—*Mart. Fl. Bras.* 24. *t.* 21, 22.—Hedysarum, *L.* Z. reticulata, *Sm.* Z. gracilis, *DC.* Z. havanensis, *Rich.*—Variable in the pubescent down, the dots in the leaves and bracts, the shape of the leaflets, the size of the flowers, and the glochides of the lomentum; flowers yellow, concealed in the stipular bracts.

α. *reticulata,* Benth. Leaflets ovate or ovate-lanceolate (6‴–12‴ long); corolla 4‴–6‴ long.

β. *elatior,* Benth. Leaflets lanceolate (12‴–18‴ long); corolla 6‴ long.—*Fl. Bras. l. c. t.* 21. *f.* 1.

γ. *vulgaris,* Benth. Leaflets ovate (4‴–6‴ long); corolla 3‴–4‴ long.

Hab. Jamaica! (α, β), *March, Al., Wullschl.;* Dominica! (γ), *Imr.;* Barbardoes!, *Lane;* Trinidad! (β), *Cr.;* [New Mexico to Rio Grande do Sul!; all trop. countries].

Sloane's figure (t. 116. f. 3), quoted erroneously as the Brazilian *Z. myriadena,* Benth., refers to an unknown Jamaica plant with 4 leaflets, found by Sloane in the savannah near Two-mile-wood.

13*. LOUREA, *Neck.*

Calyx 5-fid, reticulated-veiny, at length inflated. Standard obcordate. Stamens diadelphous. *Lomentum* compressed, contracted between the joints.—Herbs; *leaves* digitate, 3-foliolate, or reduced to a single leaflet; racemes *terminal.*

43*. **L. vespertilionis,** *Desv.* *Leaflets single,* bilobed: lobes oblong-lanceolate, blunt, divaricate.—*Jacq. Ic. Rar.* 3. *t.* 566.—Hedysarum, *L.*—Annual, erect; corolla white.—Hab. Naturalized in Jamaica!, *Pd.;* S. Kitts!, S. Vincent!, Trinidad!, *Sieb. Trin.* 83; [introduced from the East Indies].

14*. ALYSICARPUS, *Neck.*

Calyx tubular, bilabiate or 5-fid. *Stamens* diadelphous. *Lomentum* cylindrical or slightly compressed: joints several.—Suffrutescent herbs; *leaflets* single: stipules *scarious;* flowers *racemose.*

44*. **A. vaginalis,** *DC.* Diffuse; leaflets oval or oblong-linear: petiole nearly as long as the sheathing stipules; calyx 5-fid: lobes subulate, rigid; lomentum nearly cylindrical: *joints reticulated,* truncate at their ends.—A. nummularifolius, *DC.:* a form with the lomentum glabrous, and somewhat contracted between the joints.—The lomentum in the West

Indian form is puberulous, not contracted; flowers purplish.—HAB. Naturalized in Jamaica!, *Pd.*; S. Kitts!, Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [introduced from the East Indies].

15. DESMODIUM, *DC.*

Calyx-tube shortly campanulate. *Standard* obovate: wings adherent to the blunt, biauricled keel. *Vexillar stamen* adherent to the column, or free. *Lomentum* compressed: joints many to 2.—Herbs *or* shrubs; *leaves* pinnately 3-foliolate, or reduced to a single *leaflet*: stipules *usually scarious*; flowers *fascicled-racemose, rarely in simple fascicles.*

Sect. 1. SAGOTIA. *Lomentum-suture continuous: joints reticulated, truncate at the ends, tardily dehiscent.*—Flower-fascicles opposite to the leaves; calyx-segments rigid, pilose.

45. **D. triflorum,** *DC.* Procumbent, diffuse, hairy; leaflets obovate or obcordate: stipules acuminate, persistent: *pedicels geminate* (or 4–1); lomentum sessile, slightly arcuate: joints 3–6, subquadrate, broadly rounded on the dorsal margin.—*Sw. Obs. t.* 6. *f.* 1. *Mart. Fl. Bras.* 24. *t.* 26. *f.* 1.—Hedysarum, *L.* Sagotia, *Walp.* Nicholsonia, *Gr.*—Resembling Clover; pedicels as long as the lomentum; corolla small, crimson, included within the calyx.—HAB. Jamaica!, *Macf.*, *Al.*, a common weed; Antigua!, *Wullschl.*; [Mexico to Brazil!, trop. Africa!; East Indies!].

Sect. 2. NICHOLSONIA. *Lomentum-suture continuous: joints transversely veined, truncate at the ends, tardily dehiscent.*—Pedicels 2 (–3), arranged in racemes: bracts large, scarious.

46. **D. barbatum,** *Benth.* Suffrutescent; leaflets elliptical-oblong, oval, obovate, or elliptical-lanceolate; flowers in corymbs, crowded: bracts lanceolate, acuminate; *calyx at length nodding, long-pilose*: divisions lanceolate-setaceous; lomentum sessile, *reflexed,* puberulous: joints 2–4, subquadrate, broadly rounded on the dorsal margin.—*Mart. Fl. Bras.* 24. *t.* 26. *f.* 2.—Hedysarum, *Sw.* Nicholsonia, *DC.*—Exceedingly variable in down, stature, and form of leaflets; flowers light-blue or purple.

α. Stem stout, erect, villous; leaflets elliptical-lanceolate or elliptical-oblong; pedicels equalling the bracts.

β. cæruleo-violaceum, DC. Stem erect, pubescent, leaflets elliptical, elliptical-oblong, or obovate; pedicels exceeding the bracts.—*DC. Leg. t.* 51.—Hedysarum, *Mey.!* Nicholsonia cayennensis, *DC.*

γ. venustulum. Stem diffuse, pubescent or glabrate; leaflets small, obovate or elliptical-oblong; pedicels much exceeding the bracts.—Hedysarum, *Kth.* Nicholsonia, *DC.*

HAB. Jamaica!, all coll., in pastures (γ); Trinidad!, *Cr.*, in savannahs, (α, β); [Mexico! to Brazil!].

47*. **D. heterocarpum,** *DC.* Suffrutescent: leaflets obovate-oblong, lateral ones somewhat smaller; flowers in elongated racemes, crowded: bracts subulate; *lomentum* subsessile, *erect: joints* 6–4, subquadrate, broadly rounded on the dorsal margin.—Hedysarum, *L.* D. polycarpum, *DC.*—HAB. Naturalized in S. Vincent!, *Guild.*; [introduced from the East Indies!, China!, trop. Australia!, Pacific islands!].

Sect. 3. HETEROLOMA. *Lomentum-suture continuous or slightly notched: joints reticulated, half-round or half-oval, indehiscent.*—Flowers racemose.

48. **D. adscendens,** *DC.* Ascending-diffuse; branches cylindrical; leaflets 3, obovate or oval-roundish: *stipules distinct; lomentum subsessile,* straight, uncinate-pubescent: suture continuous, *dorsal margin sinuate to the middle*: joints 5–2, semioval.—*Kth. N. Gen. t.* 597.—Hedysarum, *Sw.* D. racemiferum, *DC.* D. ellipticum, *Macf.!* D. obovatum, *Vog.!*—Leaflets blunt, rarely subacute; flowers small, purple.—HAB. Jamaica!, *Macf. M'Nab*; S. Kitts!, *Els.*; Antigua!, *Wullschl.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Sch.*, *Lockh.*, *Cr.*; [Mexico! to Peru! and Rio Grande do Sul!].

49. **D. incanum,** *DC.* Diffuse; branches cylindrical; leaflets 3 (–1), ovate or oblong subacute (rarely lanceolate), glaucous beneath: *stipules connate to the middle,* at length subdistinct; *lomentum subsessile,* straightish, uncinate-pubescent: suture continuous, *dorsal margin sinuate as deep as to the suture*: joints 5–8(–2), semioval.—*Sl. t.* 118. *f.* 1, 2.—Hedysarum, *Sw.* H. supinum, *Sw.* D. supinum, *DC.*—Erect or ascending, variable in growth; flowers small, purple.

a. Leaflets broad.

β. *angustifolium*. Leaflets usually single, most of them lanceolate-linear or lanceolate. —D. angustifolium, *DC.?* The lower leaves present, sometimes broad-elliptical or roundish leaflets.

Hab. Bahamas!, *Swains.*; Jamaica!, all coll., common in pastures; Antigua!, *Wullschl.* (*a*, *β*); S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! and Mexico! to Brazil!, trop. Africa, East Indies!].

50*. **D. gangeticum,** *DC.* Virgate; branches angular, hispidulous-pubescent; *leaflets single*, ovate, costate-veiny, glaucous-scabrous beneath: stipules distinct; *lomentum subsessile*: suture slightly notched, *dorsal margin sinuate beyond the middle*: joints 8–5, semiorbicular.—*Wight Ic.* 1. *t.* 271.—1′–3′ high; flowers small, purple or yellowish-white.—Hab. Naturalized in Jamaica!, *Wils.*, common; [introduced from the East Indies].

51*. **D. latifolium,** *DC.* Virgate; branches subcylindrical, villous; *leaflets single*, large, broadly ovate, repand, subtomentose beneath: stipules distinct; *lomentum subsessile*, pilose: suture continuous or slightly notched, *dorsal margin sinuate to the middle*: joints, 5–3, semioval.—*Wight Ic.* 1. *t.* 270–272.—Racemes elongated: flowers crowded, small.—Hab. Naturalized in S. Vincent!, *Guild.*; [introduced from the East Indies!; trop. Africa!].

52. **D. cajanifolium,** *DC.* Virgate; branches cylindrical, scabrous-pubescent; leaflets 3, ovate-oblong or oblong-lanceolate, glaucous-pubescent beneath: stipules distinct, obliquely subulate, deciduous; *lomentum subsessile, with the dissepiments very narrow*: suture slightly notched, dorsal margin sinuate as deep as to the suture: *joints* 8–5, *subdistinct*, deltoid-semioval.—*Kth. N. Gen. t.* 598.—Hedysarum, *Kth.* D. laburnifolium, *Sieb. Tr.* 82. (*non DC.*).—8′–10′ high; racemes elongated, at length unilateral: flowers blue.—Hab. Trinidad!, *Sieb.*, *Lockh.*, *Cr.*; naturalized in Jamaica!, *Wils.*; [Mexico! to Guiana! and Bolivia!].

53. **D. uncinatum,** *DC.* Scandent; *stem triquetrous*: angles covered with uncinate down; leaflets 3, ovate-lanceolate or ovate; *lomentum subsessile*, uncinate-pubescent, arcuate: suture slightly notched, *dorsal margin sinuate to or beyond the middle*: joints 10–3, deltoid-semioval.—*Jacq.*, *Schœnbr.* 3. *t.* 298.—Hedysarum, *Jacq.* H. trigonum, *Sw.* D. trigonum, *DC.*—Branches adhering to supports by means of the stiff, hooked hairs; bracts large, ovate, pointed, caducous; flowers purplish-blue, larger than in the other species: corolla 4‴–5‴ long.—Hab. Jamaica!, *Al.*, *Wils.*, *Lane*; common, in hedges of coffee-plantations; [Sonora to Bolivia, Venezuela! to Uruguay].

54. **D. axillare,** *DC.* Creeping, rooting; branches procumbent or ascending; leaflets 3, ovate (or lanceolate); *lomentum long-stipitate*, uncinate-pubescent, with a single, very narrow dissepiment: suture slightly notched, dorsal margin sinuate as deep as to the suture: joints 2, subdistinct, deltoid-semioval, about as long as the carpophore.—Hedysarum, *Sw.* D. reptans, *DC.* D. radicans, *Macf.* D. oblongifolium, *DC.?*—Herbaceous, rarely suffrutescent, variable in the down, and form of the leaflets; racemes lax, usually long-peduncled in the axils of radicant nodes: pedicels geminate; flowers purple.—Hab. Jamaica!, *Dist.*, *Al.*, *March*, *Wullschl.*, common in shady places; S. Kitts!, Dominica!, *Imr.*; Trinidad!, *Lockh.*; *Cr.*; [Cuba! and Mexico! to Peru! and Brazil!].

Sect. 4. Chalarium.—*Lomentum sinuate equally from both margins: dissepiments narrow, central: joints reticulated, indehiscent.*—Stipules usually auricled-subulate; flowers racemose.

55. **D. scorpiurus,** *Desv.* Procumbent, rooting at the base; stem angular; leaflets 3, oval or oblong: stipules subulate, oblique at the base; *lomentum* subsessile, uncinate-pubescent, slightly constricted at the dissepiments, *not tortuous*: *joints* 7–2, *oval-linear*, minutely truncate at both ends, the terminal pointed.—Hedysarum, *Sw.* D. cinereum, *Pœpp. Cub.*—Flowers small, whitish, variegated with purple.—Hab. Jamaica!, *Dist.*, *Bancr.*, common in pastures; Antigua!, *Wullschl.*; Dominica!, *Imr.*; Trinidad!, *Lockh.*, *Cr.*; [Cuba!; Ecuador!, Peru!; Society Islands!].

56. **D. asperum,** *Desv.* Virgate; stem cylindrical; leaflets 1–3, oblong or ovate, villous beneath: stipules subulate, oblique at the base; racemes paniculate: *pedicels shorter than or as long as the flower*; *lomentum* subsessile, constricted nearly to the centre, somewhat tortuous, *at length flattened*: joints 6–2, orbicular, biconvex.—Hedysarum, *Poir.*—3′–5

high; flowers small, purple.—HAB. Trinidad!, *Lockh.*, in sandy soil; [Venezuela! to Brazil! and Peru].

57. **D. tortuosum,** *DC.* Erect; stem striate-cylindrical: down uncinate; leaflets 3, ovate or ovate-oblong, hispidulous or glabrescent: stipules obliquely subulate; racemes simple: *pedicels* filiform, *longer than the flower; lomentum* subsessile, uncinate-pubescent, *tortuous, at length flattened,* constricted nearly to the centre: joints 6–2, orbicular, flat.—*Sl. t.* 116. *f.* 1.—Hedysarum, *Sw.* D. stipulaceum, *DC.* D. pedicellatum, *Grah.* D. pulcherrimum, *Shuttlew.!*—2′–3′ high; flowers small, purple or pale-blue.—HAB. Jamaica!, *Macf., M'Nab, Wullschl.*, common; Dominica!, *Imr.;* [Cuba!, Guadeloupe!, Florida!, Mexico, New Granada!; naturalized in the East Indies!].

58. **D. spirale,** *DC.* Annual, flaccid, at length subscandent, rooting at the base; stem angular, glabrate; leaflets 3 (–1), ovate or lanceolate: stipules setaceous or oblique at the base by a minute dilatation; racemes lax: pedicels filiform; *lomentum* subsessile, uncinate-pubescent, *very tortuous,* and lasting so; joints 8–2, rhomboid-orbicular, undulate-flat.—Hedysarum, *Sw.* D. tenellum, *Kth.* D. tenuiculum, *DC.* D. sylvaticum, *Benth.!* D. ospriostreptum, *Steud.!* D. Bigelowii, *As. Gr.!* D. annuum, *As. Gr.!*—Herbaceous; flowers very small, greenish, variegated with purple.—HAB. Jamaica!, *Macf., Dist., Al.*, common; Antigua!, *Wullschl.;* Trinidad! *Cr.;* [New Mexico! and Cuba! to Brazil! and Peru; tropical Africa!, Pacific islands!].

59. **D. molle,** *DC.* Erect; stem striate: down uncinate; leaflets 3, ovate, villous-pubescent beneath: stipules subulate-setaceous; racemes paniculate: pedicels filiform; *lomentum* subsessile, *tortuous,* 2-jointed, *superior* enlarged *joint fertile,* membranaceous, flat, elliptical, with a lateral notch, glabrate, inferior striate.—Hedysarum, *V.*—Flowers very small.—HAB. Jamaica (*Macf.*): [Haiti, S. Croix; Panama!, Venezuela! to Ceara].

16*. DENDROLOBIUM, *W. A.*

Calyx 4-fid, bibracteolate; tube campanulate. *Standard* obovate; keel blunt, devoid of auricles. *Stamens* monadelphous. *Lomentum* compressed, with the style subpersistent: joints several.—Arborescent shrubs; leaves *pinnately* 3-*foliolate;* flowers in *axillary, peduncled umbels.*

60*. **D. umbellatum,** *Benth.* Branches and petioles villous-pubescent; leaflets oval, pubescent beneath: costate veins 8–12-paired; peduncles exceeded by the petiole; lomentum pubescent, glabrate: suture slightly notched, dorsal margin sinuate as deep as to the middle: joints 3–1 (–4).—*Burm. Zeyl. t.* 51.—Hedysarum, *L.*—Flowers whitish.—HAB. Naturalized in Jamaica!, *March;* [introduced from the East Indies].

17. STYLOSANTHES, *Sw.*

Calyx-tube filiform, caducous. *Corolla* inserted into the calyx-limb: standard roundish. *Stamens* monadelphous: anthers alternately unequal. *Lomentum* sessile, 2–1-jointed, usually 1-seeded, mucronate by the uncinate style-base.—Herbs; leaves *pinnately* 3-*foliolate:* stipules *adnate to the petiole;* flowers *yellow, in bracteate spikes, single or with an accessory striate pedicel.*

61. **S. procumbens,** *Sw.* Procumbent or diffuse, pubescent; *leaflets lanceolate-oblong,* pointed, glabrescent; spikes ovate: flowers with an accessory, hairy pedicel: stipular bracts rigid; *lomentum as long as the elongated, circinate beak,* reticulated-costate, usually reduced to a single joint.—*Sl. t.* 119. *f.* 2.—S. mucronata, *W.* S. humilis, *Rich. Cub.* (*non Kth.*). S. elatior, var. guadelupensis, *DC.* (*non Sw.*).—Stem suffrutescent at the base, 1′ to a few inches long.—HAB. Bahamas!, Jamaica!, all coll., common in pastures; Antigua!, *Wullschl.;* [Mexico! and Cuba! to New Granada! and Venezuela!, tropical Africa!, East Indies!].

62. **S. viscosa,** *Sw.* Diffuse, viscous-pubescent; *leaflets elliptical-oblong,* mucronate, ciliate; spikes ovate: flowers devoid of an accessory pedicel; *lomentum* subquadrate, *shortly mucronate* with the uncinate style-base, reticulated, usually reduced to a single joint.—*Sl. t.* 119. *f.* 1. *Kth. N. Gen. t.* 595.—S. glutinosa, *Kth.*—Habit of the preceding, but stem more erect, and covered with stipitate glands.—HAB. Jamaica!, *Pd., Wullschl.*, common in pastures; [Cuba! and Mexico! to Southern Brazil!].

18*. ARACHIS, *L.*

Calyx-tube elongated, filiform. *Corolla* and stamens of *Stylosanthes*. *Lomentum* long-stipitate, subterraneous, devoid of a beak, reduced to a single indehiscent joint.—Herbs; leaves *usually abruptly pinnate*: stipules *adnate to the petiole*; flowers *yellow, in axillary clusters.*

63*. **A. hypogæa,** *L.* Annual; branches procumbent; leaflets bijugal, obovate or oblong-oval: *petiole exceeding the calyx-tubes.—Mart. Fl. Bras.* 24. *t.* 23. *f.* 1.—Hab. Cultivated, and naturalized in Jamaica, Antigua!, *Wullschl.*, Dominica!, S. Vincent!, *Guild.*; [cultivated in all tropical countries].

19. BRYA, *P. Br.*

Calyx 5-fid. *Standard* oval-roundish: keel-petals distinct below. *Stamens* monadelphous: column split on the axillar side. *Lomentum* compressed: joints 2, dehiscent, the superior usually abortive.—Shrubs; leaflets 1- *or many-fascicled, or pinnate;* flowers *yellow, axillary, fascicled or cymose.*

64. **B. ebenus,** *DC.* Branches pubescent; *leaflets* spathulate, usually emarginate, *fascicled* (5–3), or *single* from the axil of a minute spine, subsessile; flowers fascicled; calyx-lobes bluntish; standard glabrous; lomentum-joints semiorbicular.—*Sl. t.* 175. *f.* 1. *Br. Jam. t.* 31. *f.* 2. *Bot. Mag. t.* 4670.—Aspalathus, *L.* Amerimnum, *Sw.*—An arborescent shrub, 15′–20′ high; leaflets leathery, deciduous, 6‴–3‴ long.—Hab. Jamaica!, all coll., common in dry, hot places; [Cuba!].

20. CHÆTOCALYX, *DC.*

Calyx 5-fid: teeth subulate, unequal. *Standard* emarginate-roundish. *Stamens* of *Brya. Lomentum* linear, continuous: joints elongated, longitudinally striate, indehiscent.—Scandent herbs; leaves *impari-pinnate:* leaflets *few-jugal;* flowers *yellow, axillary, fascicled or shortly racemose:* pedicels *filiform.*

65. **Ch. vincentinus,** *DC.* Glabrous; leaflets bi-jugal, elliptical or elliptical-oblong, mucronate; pedicels fascicled, prickly; calyx-tube prickly, as long as the longer teeth; lomentum glabrescent: *joints* 6–8, *compressed, convex on the margins, linear.—Bot. Reg. t.* 799.—Glycine, *Lindl.*—Leaflets membranaceous, deciduous, 10‴–6‴ long; corolla 6‴–8‴ long: standard pubescent; lomentum-joints 4‴ long, ½‴ broad, deeply striate, truncate at both ends.—Hab.—Dominica!, *Imr.*, S. Vincent!, *Guild.*

Subtribe 5. *VICIEÆ.—Stamens diadelphous: vexillar stamen often adherent. Legume bivalved. Cotyledons thick, amylaceous.*—Leaves usually abruptly pinnate, with the terminal leaflet transformed into a tendril.

21. VICIA, *L.*

Calyx 5-fid. *Wings* adherent above to the keel. *Style* filiform, pubescent at the top: hairs usually only at its exterior side. *Legume* many-seeded, devoid of complete dissepiments.—Herbs; leaves *abruptly pinnate, with a terminal tendril (or mucro);* inflorescence *axillary.*

66*. **V. sativa,** *L.* Annual; leaflets 4–7-jugal, usually oblong-linear, truncate at the mucronate top: stipules mostly semi-sagittate; *flowers purple, shortly pedicellate,* 1–3 in axillary fascicles; *calyx-teeth* subequal, *subulate-linear;* standard glabrous; legume sessile, linear, glabrescent.—Corolla 8‴–10‴ long.—Hab. Naturalized in Jamaica!, *March*: [introduced from Europe].

22*. ERVUM, *L.*

Calyx 5-fid. *Wings* adherent to the minute keel. *Style* filiform, glabrescent or pubescent at the top. *Legume* few-seeded.—Habit of *Vicia, but flowers small.*

67*. **E. hirsutum,** *L.* Annual; leaflets 6–10-jugal, linear: stipules semi-sagittate or

linear-lanceolate; racemes peduncled, few-flowered; calyx-teeth subequal, subulate-linear; style glabrous; *legume* sessile, oblong, *2-seeded*, usually pubescent.—Corolla light-blue, 1½‴ long.—HAB. Naturalized in the mountains of the Caribbean Islands !; [introduced from Europe].

23. ABRUS, *L.*

Calyx truncate. *Stamens* 9: column split on the vexillar side: vexillar stamen wanting. *Stigma* capitate. *Legume* partitioned by spurious, transverse dissepiments.—Twining, suffrutescent herbs, *or* shrubs; leaves *abruptly pinnate, with a terminal mucro; leaflets many-jugal;* racemes *terminal, or terminating aphyllous, axillary branches;* flowers *rosy, fascicled.*

68. **A. precatorius,** *L.* Leaflets oblong, blunt, with scattered, appressed hairs beneath, or glabrescent; wings exceeded by the keel; column very shortly adherent to the standard-claw; *legume oblong, subtruncate at both ends.—Sl. t.* 112. *f.* 4–6. *Desc. Fl.* 4. *t.* 275.—Seeds globose, shining-scarlet, with a black spot at the base.—HAB. Jamaica !, *Al.*, *Wullschl.*, common on fences; Antigua !, *Wullschl.*, S. Vincent !, *Guild.;* [Venezuela ! to Brazil !; tropical Africa to the Cape !, China !, East Indies !].

SUBTRIBE 6. *PHASEOLEÆ.—Stamens monadelphous or diadelphous. Legume bivalved. Cotyledones usually thick, amylaceous.*—Stem usually twining; leaves mostly pinnately 3-foliolate, stipellate.

Series 1. **Rhynchosieæ.**—*Calyx ebracteolate. Pedicels solitary or geminate.*

24. RHYNCHOSIA, *Lour.*

Calyx unequally 5-fid, or 4–5-partite. *Standard* roundish. *Stamens* mostly diadelphous. *Ovary* 2(–1)-ovulate. *Legume* compressed, continuous. *Seeds* with a short or obsolete rhaphe.—Herbs, *often glanduliferous with minute yellow glands;* leaflets 3 (–1); flowers *usually yellowish, mostly in axillary racemes.*

Sect. 1. COPISMA.—*Calyx* 5-*fid: inferior lobe longer.*

69. **R. minima,** *DC.* Tomentose or glabrescent; stem low, twining, obtuse-angled; leaflets ovate-rhomboid, rather acute; flowers racemose, distant; calyx-lobes lanceolate-linear the inferior about half as long as the corolla; *legume not constricted,* oblong, tapering at the base, pubescent: *seeds black.—Sl. t.* 115. *f.* 1. *Mart. Fl. Bras.* 24. *t.* 54. *f.* 2.—Dolichos, *L.* R. punctata, *DC.* R. caribæa, *Torr. et Gr.*, *Macf.:* DC.'s homonym (from Jacq. Ic. Rar. t. 146) has larger flowers and legumes, and is probably a 1-seeded form of the following species.—Stem about 1′ high; corolla 3‴–4‴ long, yellow: standard veined with purple; legume 6‴–10‴ long: seeds reniform, with a minute rhaphe, 1‴ broad.—HAB. Bahamas !, *Swains.;* Jamaica ! to Trinidad !, all coll., a common weed; [Texas !, Cuba ! and Mexico ! to Brazil !; trop. Africa ! and Asia !].

70. **R. phaseoloides,** *DC.* Tomentose or glabrate; stem suffrutescent, twining, subcylindrical; leaflets ovate or ovate-rhomboid, pointed; racemes many-flowered; calyx-lobes ovate-lanceolate or ovate, pointed, the inferior half as long as the standard; *legume constricted* between both seeds, tomentose or glabrescent: *seeds black, with a scarlet-yellow ring around the hilum.—Mart. l. c. t.* 54. *f.* 1.—*Seem. Panam. t.* 20.—Glycine, *Sw.* R. precatoria, *DC.* R. caribæa, *DC.?*—Exceedingly variable in the down, the size and form of the leaflets, the glands, the inflorescence, and the calyx-lobes. A high climber; corolla 5‴–7‴ long, yellow: standard striate with purple; legume 10‴–12‴ long, 4‴ broad: seeds roundish, with a short, linear-oblong rhaphe, 2½‴ diam.—HAB. Jamaica !, all coll., in woods; Dominica !, *Imr.;* Trinidad !, *Pd.;* [Cuba and Panama ! to Brazil; Galapagos Islands !].

Sect. 2. ARCYPHYLLUM.—*Calyx 4-partite, nearly as long as the corolla: upper segment bifid.*

71. **R. reticulata,** *DC.* Tomentose; stem suffrutescent, twining, angular; leaflets ovate, pointed, 3-nerved, and reticulated beneath, with the ribs prominulous; racemes many-flowered: flowers shortly pedicellate, nodding; *calyx-segments* lanceolate or oblong-lanceo-

late, acuminate, *nearly as long as the corolla; legume not constricted*, oblong, pubescent or glabrescent: seeds nearly black.—Glycine, *Sw.* R. latifolia, *Nutt.* R. macrophylla, *DC.* R. longeramosa, *Mart. & Galeott.!* R. æquinoctialis, *Walp.!*—Variable in the size of the leaflets, their under side white with down, or greenish, the size of the calyx, which exceeds the corolla or is exceeded by it. Calyx 6‴–3‴ long: tube very short, turbinate: segments spreading; corolla yellow or variegated with purple?; legume 10‴ long, 3‴ broad: seeds reniform-roundish, compressed, with a shortly linear-oblong rhaphe, 2‴ diam.—HAB. Jamaica!, all coll., in the southern and western hills; Antigua!, *Wullschl.*; S. Vincent!, *Guild.*; [Texas! to Peru!, Cuba! to Brazil!].

25. ERIOSEMA, *Desv.*

Calyx 5-fid. *Standard* obovate or roundish. *Stamens* diadelphous. *Ovary* 2-ovulate. *Legume* compressed, continuous. *Seeds* transversely oblong: rhaphe linear.—Herbs; leaflets 3–1, *subsessile*: stipules *lanceolate*; flowers *usually in axillary, spiciform racemes*: standard *often villous.*

72. **E. violaceum,** *E. Mey.* Suffrutescent, erect, rusty-pubescent; stem striate; *leaflets* 3, *lanceolate-linear*, rugose above, veiny beneath: stipules opposite to the subsessile leaves, connate, or at length distinct; racemes oblong, shortly peduncled, exceeded by the leaves; calyx half as long as the villous standard: lobes acuminate, as long as their tube; legume oval, villous.—*Aubl. t.* 306.—Cytisus, *Aubl.* Rhynchosia, *DC.* E. grandiflorum, *Bernh.! in Pl. Kappler.*—Stem virgate, 1′–2′ high; leaflets 3″–2″ long, 3‴–6‴ broad; corolla yellow.—HAB. Trinidad!, *Lockh.*, *Cr.*, common in dry savannahs; [Guiana!].

73. **E. simplicifolium,** *Walp.* Suffrutescent, decumbent, pilose with spreading or appressed rusty hairs; stem subcylindrical; *leaflets single, oblong-lanceolate* or linear-oblong, minutely cordate at the base, smooth above, reticulated-veiny beneath: stipules opposite to the leaves, connate to the acuminate top, much longer than the petiole; racemes few-flowered, long-peduncled; calyx half as long as the hairy standard: lobes acuminate, longer than their tube; legume ovoid-oblong, pilose.—Rhynchosia, *DC.* E. lanceolatum, *Benth.!*—Leaflets 3″–2″ long, 12‴–8‴ broad, pointed or blunt: stipules 6‴ long; corolla 6‴–8‴ long, yellow.—HAB. Trinidad!, *Lockh.*, *Cr.*, in savannahs, Arima, Piasco; [Guiana!, Brazil!].

26*. CAJANUS, *DC.*

Calyx 4-fid: upper lobe bidentate. *Standard* roundish, auricled. *Stamens* diadelphous. *Ovary* many-ovulate. *Legume* compressed, continuous, constricted between the seeds.—A shrub; leaflets 3; racemes *axillary*: flowers *yellow.*

74*. **C. indicus,** *Spreng.—Tuss. Fl.* 4. *t.* 32. *Desc. Fl.* 4. *t.* 280.—Cytisus Cajan, *L.* C. flavus, *DC.*: flowers yellow, concolor, and C. bicolor, *DC.*: a form with orange-blotched standard, both occurring sometimes in the same plant (Duchass.).—6′–12′ high; leaflets lanceolate-oblong, pointed, hoary-subtomentose beneath.—HAB. Naturalized in Jamaica!, *Pd.*; S. Kitts!, *Els.*; Antigua!, *Wullschl.*; S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Venezuela! to Peru! and Brazil!, trop. Africa!, East Indies!, Pacific islands!].

27*. FLEMINGIA, *Roxb.*

Calyx 5-fid: inferior lobe longer. *Standard* roundish, with inflexed auricles: wings adherent to the keel. *Stamens* diadelphous. *Ovary* 2-ovulate. *Legume* turgid, continuous. —Shrubs; leaflets 3–1, *glanduliferous beneath*; flowers *in spiciform, often compound racemes.*

75*. **F. strobilifera,** *R. Br.* Branchlets pubescent; *leaflets single, elliptical*; flowers concealed within large, reniform, folded, scarious, distichous bracts; keel bluntly falcate.—*L. Zeyl. t.* 3.—Hedysarum, *L.*—HAB. Naturalized in Jamaica!, *March*; S. Kitts!, Trinidad!, *Cr.*; [introduced from the East Indies].

F. stricta, Roxb., with 3, oblong, acuminate leaflets, is cultivated in Jamaica!, *Al.*

Series 2. **Clitorieæ.**—*Calyx bibracteolate. Pedicels devoid of a common knob at the base.*

28. CLITORIA, *L.*

Calyx campanulate-tubular, 5-fid or 5-toothed. *Standard* large, emarginate-roundish. *Style* dilated and bearded beneath at the top.—Peduncles *axillary:* bracteoles *striate;* flowers *purple.*

Sect. 1. TERNATEA.—*Legume flat, subsessile: valves ecostate.*—Leaves impari-pinnate.

76. **C. Ternatea,** *L.* Stem twining, puberulous; *leaflets* 2–3-*jugal* (rarely 4–5-jugal), ovate, blunt, or oval; peduncles 1-flowered: bracteoles roundish, almost half as long as the calyx; flowers resupinate; calyx-lobes lanceolate, acuminate; legume linear, pubescent.—*Mart. Fl. Bras.* 24. *t.* 31. *f.* 1.—Herbaceous, suffrutescent; flowers blue or white: standard 2″ long; seeds compressed.—HAB. Jamaica!, *Al.;* Antigua!, *Wullschl.;* Barbadoes; [all tropical countries, chiefly East Indies! and trop. Africa!; often cultivated in America].

Sect. 2. NEUROCARPUM.—*Legume stipitate: valves convex, each usually with a prominulous midrib.*—Leaflets 3 (–1).

77. **C. glycinoides,** *DC.* *Stem twining, villous-pubescent;* leaflets 3, ovate-oblong, villous or sericeous beneath; peduncles 3–1-flowered: bracteoles ovate-lanceolate, 2–4 times exceeded by the calyx; calyx-lobes lanceolate, acuminate; legume oblong-linear, glabrescent: *valves with a prominulous midrib.*—*München Denkschr.* 7. *t.* 12.—Neurocarpum, *Desv.* N. falcatum, *DC.* N. ellipticum, *Desv.* N. argenteum, *Walp.!* Martiusia physalodes, *Schult.*—Herbaceous, suffrutescent; flowers purple-variegated: standard 1½″ long; seeds globose.—HAB. Jamaica!, *Dist., Pd.,* rare; Trinidad!, *Lockh.;* [Haiti! and Panama! to Rio Grande do Sul! and Peru!].

78. **C. cajanifolia,** *Benth.* *Stem erect,* herbaceous, pubescent; *leaflets* 3 (–1), *oblong,* pubescent beneath; peduncles 2–1-flowered: bracteoles ovate, much exceeded by the calyx; legume-valves with a prominulous midrib, "rarely destitute of it."—Neurocarpum, *Prl.*—HAB. Trinidad (*Benth. ex Sieb. Tr.* 187); [Haiti to Brazil].

Sect. 3. CLITORIANTHUS.—*Legume flat, stipitate: valves ecostate.*—Shrubs, or vines; leaves 3-foliolate.

79. **C. arborescens,** *Ait.* Stem shrubby: branches twining, rusty-subtomentose; leaflets 3, elliptical or oval, rusty-tomentose or glabrescent beneath; *peduncles bearing a short raceme:* bracteoles ovate or ovate-lanceolate, much exceeded by the calyx-tube; *calyx-teeth* ovate-triangular, *much shorter than the tube;* standard pubescent on the back; legume linear, tomentose: seeds separated by spurious dissepiments.—C. Poitæi, *DC.* Dolichos spurius, *Mey.!*—A high climber; leaflets apiculate, or blunt; flowers purple: standard more than 2″ long; seeds compressed.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Panama! to Guiana!].

29. CENTROSEMA, *Benth.*

Calyx infundibuliform, usually 5-fid. *Standard* roundish: back spurred or gibbous above its base. *Style* dilated towards the top. *Legume* subsessile, compressed: valves costate near both margins.—Habit and bracteoles of *Clitoria.*

80. **C. Plumieri,** *Benth.* Stem twining, suffrutescent at the base; leaflets 3, broadly ovate; peduncles few-flowered: *bracteoles ovate, twice as long as the calyx; calyx-teeth very short,* unequal; standard spurred above the calyx, pubescent on the back; ribs of the legume-valves prominulous, 1½‴ distant from the margin.—*Desc. Fl.* 8. *t.* 591.—Clitoria, *Juss.*—Leaflets large, turning black in drying; corolla white, and variegated with bright-purple and yellow; standard 1½″ diam.; seeds subcompressed-cubical, 3‴–4‴ long.—HAB. Jamaica!, *Pd., Dist., Wils., Wullschl.,* common on fences; S. Kitts!, S. Vincent!, Trinidad!, *Lockh.;* [Cuba! and Mexico! to Brazil! and Peru!].

81. **C. pubescens,** *Benth.!* Stem twining; leaflets 3, ovate or ovate-oblong; peduncles few-flowered: *bracteoles* ovate, *as long as the calyx; inferior calyx-lobe longer than the tube,* the superior connected below the summit; standard spurred, pubescent on the

back; ribs of the legume-valves ½‴ distant from the margin.—*Mart. Fl. Bras.* 24. *t.* 34. *f.* 2.—C. intermedium, *Rich.* C. virginianum, *Pl. Carib.* (*non Benth.*). Clitoria virginiana, *Sw. Observ.* (*non L.*), *Macf. partim!*—Leaflets usually pubescent beneath; standard 1″ diam.; seeds subcompressed-cubical, 2‴ long.—Hab. Jamaica!, all collectors; Antigua!, *Wullschl.*; [Cuba! and Mexico! to Brazil! and New Granada!].

82. **C. virginianum,** *Benth.!* Stem twining; leaflets 3, ovate, oblong, or linear; peduncles 3–1-flowered: *bracteoles* ovate, *somewhat exceeded by the calyx;* calyx-lobes 5, subequal, *longer than the tube,* distant, linear; standard spurred, puberulous on the back; ribs of the legume-valves juxtamarginal.—*Desc. Fl.* 8. *t.* 590.—Clitoria, *L., Macf. partim!* C. decumbens, *Mart., Benth.!*—Herbaceous, slender; corolla violet: standard 8‴–10‴ long; legume 2‴ broad, narrower than in the preceding; seeds cubical, 1½‴ long.

α. Leaflets ovate or oblong.

β. angustifolium. Leaflets linear, or the inferior oblong.—C. pascuorum, *Benth.!* Clitoria virginiana, *α, DC.*

Hab. Bahamas!, *Hjalmars.* (*β*); Jamaica!, *Al., Pd., Dist.* (*α*); Antigua!, *Wullschl.* (*α, β*); Dominica!, *Imr.*; S. Lucia!; [Virginia, Alabama!, Florida!, throughout trop. America to Rio Grande do Sul!; Niger!].

83. **C. hastatum,** *Benth.* Stem twining; *leaflets single, hastate: petiole winged;* peduncles 3–1-flowered: bracteoles as long as the calyx; ribs of the legume-valves marginal. —*Kth. N. Gen.* 6. *t.* 591.—Rudolphia dubia, *Kth.*—Our single West Indian specimen is pubescent, and approaches to *C. fasciculatum,* Benth.: its calyx-lobes are lanceolate-linear, and twice as long as the tube, while in Venezuela specimens (*Fendl.* 247) the leaflets are glabrous, and the calyx-lobes shorter than or as long as the tube. Seeds compressed-cubical, 2‴ long.—Hab. S. Kitts!; [Cuba; Venezuela! to Brazil].

30. TERAMNUS, *Sw.*

Calyx campanulate-tubular, bilabiate or 5-fid; lobes lanceolate. *Standard* obovate. *Stamens* monadelphous, alternately sterile. *Stigma* capitate. *Legume* linear, compressed, with the valves convex: seeds separated by spurious dissepiments.—Twining, suffrutescent, slender herbs; leaves *pinnately 3-foliolate;* inflorescence *axillary:* flowers *small, purple, interruptedly fascicled-racemose, occasionally simply fascicled:* bracteoles *minute, deciduous.*

84. **T. volubilis,** *Sw.!* Leaflets oblong-lanceolate, bluntish, pubescent beneath; *upper lip of the calyx shortly bidentate,* inferior 3-partite; wings exceeding the keel; *legume* pubescent, *obliquely beaked.*—*Sw. Fl. t.* 25: *analyt.*—Glycine oblonga, *Benth.!*—Corolla 3‴ long, twice as long as the calyx; legume 1″–1½″ long: beak straight, 1‴ long; seeds yellowish, oblong, 1‴ long.—Hab. Jamaica!, *Sw.*, among mountain-shrubs; [New Granada!, equatorial Brazil!].

85. **T. uncinatus,** *Sw.!* Leaflets oblong-lanceolate, pubescent above, sericeous beneath; *calyx 5-fid: lobes subequal;* wings exceeding the keel, their lamina being twice as long; *legume rusty-hirsute, terminated with a recurved beak.*—*Desc. Fl.* 8. *t.* 553. *Mart. Fl. Bras.* 24. *t.* 37.—Dolichos, *L.* Glycine discolor, *Mart. & Galeott.!*—Stem villous, angular; corolla 3‴ long; legume 1½″–2″ long: beak linear, arcuate, 1½‴ long; seeds yellowish, oblong, 1½‴ long.—Hab. Jamaica!, *Al., M'Nab,* among shrubs in arid situations; [Mexico!, Venezuela!, Peru!].

86. **T. labialis,** *Spreng.* Leaflets elliptical or ovate, sparingly pubescent beneath; *calyx 5-fid:* lobes subequal, or the upper lip bifid to or beyond the middle, the inferior 3-partite; wings slightly exceeding the keel; *legume slightly pubescent, rounded at the top, with a short uncinate beak.*—*Wight, Ic.* 1. *t.* 168.—Glycine, *L.* G. parviflora, *Lam.* G. abyssinica, *Hochst.!* T. volubilis, *Macf. partim!* (*non Sw.*). Bujacia gampsonychia, *E. Mey.!*—Stem hispidulous or glabrate; corolla 3‴ long; legume 1½″ long: beak thickish, ½‴ long; seeds black, compressed-cubical, 1‴ long.—Hab. Jamaica!, *Macf., March,* common; Antigua!, *Wullschl.*; [trop. Africa! to the Cape!; East Indies!].

31. GALACTIA, *P. Br.*

Calyx campanulate, 4-fid or 4-toothed: lobes entire, acuminate. *Standard* obovate.

Stamens diadelphous. *Stigma* minute. *Legume* compressed: seeds separated by cellular tissue.—Habit and inflorescence of *Teramnus*: flowers *larger*; stem *twining (or procumbent)*; leaves 3-*foliolate (rarely* 5–1-*foliolate)*.

Sect. 1. SWEETIA, *DC.* (Galactia, *Mich.*; Campesia, *W. A.*)—*Vexillar stamen free.*

87. **G. filiformis,** *Benth.* Stem twining; *leaflets* 3, *ovate-oblong*, hairy beneath, about *as long as the common petiole*; racemes elongated, interrupted; calyx-lobes linear, twice as long as their tube, the superior and inferior of equal length, the lateral ones somewhat shorter; *legume* flat, oblong-linear, *rounded at the arcuate top, with a short, uncinate beak*, pubescent, often villous, chiefly along the middle line of the valves.—*Jacq. Ic. Rar. t.* 573.—Galega, *Jacq.* Sweetia, *DC.* Glycine tenuiflora, *W.* Galactia tenuiflora, *W. A.*; G. dubia, *DC.*; G. pilosa, *Nutt.*; G. Berteriana, *DC.*; G. brevistyla, *Schlecht.* Teramnus volubilis, *Macf. partim!* (*non Sw.*).—It resembles *Teramnus labialis*, but is distinguished by larger flowers (corolla 5‴–6‴ long), and broader legumes, and by the generic, though rather artificial character.—HAB. Bahamas!, *Swains.*; Jamaica!, *Macf.*, *Al.*, *Dist.*, *Wils.*, *Wullschl.*; common; Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [Georgia!, Florida!, Cuba!, Guadeloupe!, Panama!, Venezuela!, trop. Australia!, East Indies!].

88. **G. angustifolia,** *Kth.* Stem twining above; *leaflets* 3, *oblong-linear*, mucronulate-obtuse, pubescent beneath, *much longer than the common petiole*; racemes exceeded by, or as long as the leaves, usually few-flowered; calyx-lobes lanceolate, twice as long as the tube, subequal, the superior broader; *legume* flat, oblong-linear, *rounded at the straight top, with a short, uncinate beak*, pubescent.—*Jacq. Ic. Rar. t.* 572. *Humb. Mimos. t.* 56. —Galega longifolia, *Jacq.* (Sweetia, *DC.*). Dolichos filiformis, *L.* e Jamaica? (*non Macf.*). G. Sagoti, *Walp.!*—Leaflets 1½″–2″ long, 3‴–4‴ broad; corolla purple, 4‴–5‴ long; legume 1″ long, 2½‴ broad.—HAB. Antigua!, *Wullschl.*; [Guadeloupe!, Venezuela].

Sect. 2. EUGALACTIA. (Galactia, *P. Br.*; Collæa, *DC.*)—*Vexillar stamen adhering to the column above its base.*

89. **G. Lockharti,** *Gr.* (*n. sp.*). Stem twining, pubescent, leaflets 3, oval-oblong, mucronulate-obtuse, pubescent beneath, as long as the common petiole; *racemes* many-flowered, *exceeding the leaves*; calyx-lobes lanceolate, acuminate, 2–3 times longer than their tube, subequal, the lateral somewhat shorter; *standard scarcely twice as long as the calyx*, glabrous; legume oblong, pointed, villous, at length pubescent.—Collæa parviflora, *Benth. MS.*—Habit of *G. filiformis*, but flowers more approximate, 1–2 in the fascicle; leaflets 2″–9‴ long, 1″–½″ broad: stipules and stipellæ setaceous, persistent; racemes peduncled, 6″–4″ long (the peduncle included): pedicels as long as the calyx; calyx 3‴ long: tube turbinate-campanulate, pubescent; standard 4‴–5‴ long, obovate-roundish, exceeding a little the other petals; keel oblong, blunt: wings spathulate; vexillar stamen adhering to the column above its free base; style filiform, arcuate: stigma minute; legume sessile, 1″ long, 4‴ broad.—HAB. West Indies!, *Sw.*; Trinidad!, *Lockh.*; [Venezuela!, *Fendl.* 273, New Granada!].

90. **G. pendula,** *Pers.* Stem twining, pubescent; leaflets 3, obovate-oblong, mucronulate-obtuse, hispidulous beneath, longer than the common petiole; racemes few-flowered, equalling or exceeding the leaves: *flowers large, pendulous*: pedicels as long as the calyx; calyx-lobes ovate, pointed, as long as the tube, subequal, the lateral narrower; *standard* obovate-spathulate, 6 *times as long as the calyx*, glabrous; legume stipitate, arcuate, oblong-linear, acuminate, pubescent.—*Sl. t.* 114. *f.* 4. *Br. Jam. t.* 32. *f.* 2.—Clitoria Galactia, *L.* Collæa pendula, *Benth. partim.*—A "milky," high climber; calyx 2‴, corolla 12‴ long, crimson.—HAB. Jamaica! *Macf.*, *Bancr.*, *Wils.*, *March*, common in the limestone districts.

91. **G. longiflora,** *Arn.* Stem twining, pubescent; leaflets 3, ovate-oblong, mucronulate-obtuse, pubescent, about as long as the common petiole; racemes several-flowered, exceeding the leaves: *flowers large*, in distant pairs: pedicels shorter than the calyx; calyx-lobes lanceolate, acuminate, the inferior longer than the tube, the lateral shorter; *standard* obovate-spathulate, *twice as long as the calyx*, glabrous; legume subsessile, straightish, oblong-linear, rounded at the mucronate top, villous-pubescent.—Collæa pendula, *Benth. partim.* Dolichos ruber, *Jacq. Amer. Pict. t.* 191 (Dioclea Jacquiniana, *DC.*), appears

to be a glabrescent Martinique form. It resembles the preceding, and the corolla is of the same dimensions; but is easily distinguished by the large, pubescent calyx, the inferior segment of which is 6‴ long. Corolla pink and white.—HAB. S. Kitts!, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*

Series 3. **Euphaseoleæ.**—*Calyx bibracteolate. Pedicels fascicled, inserted into a knob, which protrudes from the rhachis.*

32. STENOLOBIUM, *Benth.*

Calyx campanulate, bilabiate: upper lip bidentate or bifid, inferior 3-partite. *Standard* obovate, biauricled. *Stamens* diadelphous. *Style* filiform: stigma terminal. *Legume* compressed: seeds separated by spurious dissepiments.—Stem *twining* (*rarely erect*); leaves 3-*foliolate, stipellate;* inflorescence *fascicled-racemose:* flowers *blue, narrow.*

92. **S. cæruleum,** *Benth.* Stem twining; leaflets rhomboid-ovate, pointed or blunt, tomentose or sericeous-villous beneath, (rarely glabrescent); racemes many-flowered; *calyx half as long as the corolla;* legume pubescent.—*Mart. Fl. Bras.* 24. *t.* 38.—Leaflets 3″–2″ long; corolla pale blue, 4‴–5‴ long.—HAB. Trinidad!, *Sch.*, *Lockh.*, *Cr.;* [Cuba! and Mexico! to Peru! and Rio Grande do Sul!].

33. PACHYRRHIZUS, *Rich.*

Calyx, corolla and *stamens* of *Stenolobium. Style* compressed above, and hairy: stigma lateral. *Legume* compressed, impressed transversely along the spurious dissepiments.—Stem *twining;* leaves 3-*foliolate, stipellate:* leaflets *usually sinuate-angular;* inflorescence *fascicled-racemose:* flowers *blue.*

93. **P. angulatus,** *Rich.* Leaflets deltoid-ovate, angular, pubescent beneath or glabrescent.—*Plum. Ed. Burm. t.* 222. *Mart. Fl. Bras.* 24. *t.* 53.—Dolichos bulbosus, *L.* D. articulatus, *Lam.* D. subracemosus, *Jacq.?* P. articulatus, *Walp.* Tæniocarpum, *Desv.*—Rhizoma tuberiferous; leaflets 4″–3″ diam.; standard roundish-ovate, 8‴–6‴ long; legume straight, glabrescent, subflexuose on the margins: seeds compressed-roundish.—HAB. Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil; East Indies!, China!, Madagascar!, propagated by culture].

34. VIGNA, *Sw.*

Calyx campanulate, 4–5-fid. *Standard* roundish, auricled at the base. *Stamens* diadelphous. *Style* cartilaginous above and hairy: stigma lateral. *Legume* subcylindrical, straightish: seeds separated by thin, spurious dissepiments.—Stem *twining or prostrate;* leaves 3-*foliolate, stipellate;* peduncles *axillary, bearing capitate umbels or short racemes:* flowers *usually yellow.*

94. **V. luteola,** *Benth.* Stem twining or prostrate; leaflets ovate, glabrous or glabrescent; *pedicels shortly racemose,* shorter than the calyx; *calyx 4-fid,* 4 times exceeded by the corolla: lobes subulate, as long as the tube; *keel obversely deltoid,* pointed; legume pubescent with appressed down, or glabrate, oblong-linear, subcompressed, with the valves convex, mucronulate, 8–10-seeded, often contracted between several of the seeds: seeds shining brown, with a white hilum, semiovoid-globose.—*Mart. Fl. Bras.* 24. *t.* 50. *f.* 2.—Dolichos, *Jacq.* D. repens, *L.* (*ex. syn.*, *P. Br.*). D. luteus, *Sw.!* V. glabra *and* villosa, *Sav.*—Variable in the down, the leaflets bluntish or pointed, the upper calyx-lips pointed or bluntish, the legume torulose or equal. Corolla pale-yellow, 6‴–8‴ long; legume 2‴ long, 3‴ broad: seeds 2‴ long.—HAB. Jamaica!, *Sw.*, *Macf.*, *Dist.*, *March*, common in marshes along the seashore!, Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Florida! and Texas! to Peru! and Buenos Ayres!].

95. **V. vexillata,** *Rich.* Stem twining; leaflets ovate-lanceolate or ovate, pointed, hairy beneath or glabrescent; *pedicels* 2–4, *in a contracted umbel,* shorter than the calyx; *calyx* 5-*fid,* twice exceeded by the corolla: lobes lanceolate, acuminate, as long as the tube: *keel circinate-falcate,* unilaterally auricled at the claw; legume hairy or glabrescent, linear, cylindrical, obliquely acuminate, 20–24-seeded: seeds brown, with a white hilum, reniform-oblong.—*Jacq. Vind. t.* 102. *Mart. Fl. Bras.* 24. *t.* 50. *f.* 1.—Phaseolus, *L.*—Corolla

10‴–12‴ long, yellow and purplish-variegated; legume 4″ long, 2‴ diam.: seeds 2‴ long.—HAB. West Indies (*Benth.*); [Cuba! and Panama! to Brazil and Ecuador!, tropical Africa! and Australia!, East Indies].

Several species of *Vigna* and *Dolichos*, not occurring in recent collections, are mentioned by Macfadyen as cultivated in Jamaica: viz. *V. unguiculata*, Walp. (*Dolichos*, Jacq. Vind. t. 23, 23); *Dolichos sphærospermus*, DC. (Sl. t. 117); *D. tuberosus*, Lam. (Plum. Ed. Burm. t. 220. Desc. Fl. 8. t. 554); and *D. sesquipedalis*, L. (Jacq. Vind. t. 67).—*D. filiformis*, Macf. (non L.), is unknown to me, but from its "monadelphous stamens" is no congener of either of these genera: by its "falcate legumes" and "ovate leaflets" it differs from *D. filiformis*, L., which likewise is an unknown Jamaica plant, and has "linear leaflets, the middle twice as long as the lateral ones:" both are to be compared with *Teramnus*.

35. DOLICHOS, *L.*

Calyx campanulate, shortly 4–5-fid. *Standard* roundish, auricled at the base, bicallous in the middle. *Stamens* diadelphous. *Style* cartilaginous, usually compressed above, and hairy: stigma terminal. *Legume* compressed: valves convex or flat: seeds separated by thin, spurious dissepiments.—Leaflets 3, *stipellate;* inflorescence *axillary, fascicled-racemose.*

96*. **D. Lablab,** *L.* Stem twining; leaflets rhomboid-ovate; racemes peduncled; calyx 4-fid, the upper lobe broader; keel beaked-falcate; style compressed; *legume scimitar-shaped,* flat-convex, with an oblique, or recurved, straightish point: margins submuricate: seeds subcompressed: rhaphe thickish, white, two-thirds as long as their diameter.—*Mart. Fl. Bras.* 24. *t.* 51. *f.* 2.—Lablab vulgaris, *Sav.*

α. Corolla violet; legume 2″–3″ long, 10‴–12‴ broad: seeds oval, black, 5‴–6‴ long.

β. albiflorus, DC. Corolla white; legume 2½″ long, 8‴ broad: seeds oval-roundish, black, 4‴ long.—*Sl. t.* 113.—Lablab leucocarpus, *Sav.*

γ. nankinicus, Sav. Corolla white; legume 2″–3″ long, 8‴–10‴ broad: seeds oval, less compressed, white, 5‴ long.—L. perennans, *DC.*

δ. purpureus, Jacq. Corolla purple; legume 3″ long, 6‴–8‴ broad: seeds oval-roundish, purple, 4‴ long.

HAB. Naturalized and cultivated in Jamaica!, *Al.*, S. Kitts!, Antigua!, *Wullschl.* (*α, β, γ*); [all tropical countries].

36. PHASEOLUS, *L.*

Calyx campanulate, 4–5-fid or 4–5-toothed. *Standard* roundish: keel spirally twisted! *Stamens* diadelphous. *Style* cartilaginous above: stigma oblique or lateral. *Legume* compressed or subcylindrical.—Leaflets 3 (–1), *stipellate, lateral usually oblique*: inflorescence *axillary, fascicled-racemose.*

97. **Ph. lunatus,** *L.* Stem usually twining; leaflets ovate, pointed; peduncles shorter than or as long as the leaves; *calyx 4-toothed, much longer than the bracteoles:* inferior teeth 3-angular, superior truncate; *legume scimitar-shaped, compressed,* arcuate-beaked, 3–4-seeded: seeds subquadrate-roundish.—*Desc. Fl.* 8. *t.* 558. Ph. bipunctatus, *Jacq.;* inamœnus, *L.;* saccharatus, *Macf.!;* latisiliquus, *Macf.!;* fœcundus, *Macf.;* limensis, *Macf.?*—Flowers usually greenish-white; legume 3″–1½″ long, 8‴–5‴ broad: seeds purple or white.—HAB. Spontaneous, and cultivated in Jamaica!, *Macf.; Al.;* Antigua!, *Wullschl.;* [Cuba! and Mexico! to equatorial Brazil!, tropical Africa! and Asia!].

98*. **Ph. vulgaris,** *L.* Stem usually twining; leaflets ovate, pointed; peduncles shorter than the leaves; *calyx 4-toothed, as long as the bracteoles:* inferior teeth 3-angular, superior subtruncate; *legume oblong-linear,* subcompressed, subtorulose, straightish, few- or many-seeded: seeds ovoid-oblong.—*Sl. t.* 115. *f.* 2, 3.—Ph. nanus, *L.;* gonospermus, *Sav.;* compressus, *DC.;* dumosus, *Macf.?*—Flowers usually white; seeds variable in colour.—HAB. Naturalized, and cultivated in Jamaica (*Sl., Macf.*); [tropical Asia! and Africa].

99. **Ph. adenanthus,** *Mey.!* (1818). Stem usually twining: leaflets ovate, pointed; peduncles few-flowered, usually exceeded by the leaves; *calyx 4-fid: inferior lobe lanceolate-linear, as long as the tube,* lateral shorter, falcate, superior truncate; corolla large, 3–4 times exceeding the calyx; *legume linear,* compressed, straightish or curved.—*Wight. Ic. t.* 34.—Ph. truxillensis *and* cirrhosus, *Kth.* (1823). Ph. rostratus, *Wall.* Ph. amœnus, *Macf.!*

Ph. surinamensis, *Miq.*—Corolla purplish or variegated with white: standard 10‴–12‴ long; legume 4″–3″ long, 4‴–5‴ broad.—HAB. Jamaica!, *Macf.*, *Dist.*, *Al.*, *March*, chiefly in the mountains; [Mexico! to Peru!, Brazil!, Peru!, and Buenos Ayres; tropical Australia!, East Indies!].

100. **Ph. lasiocarpus,** *Mart.* Stem twining, densely *rusty-villous;* leaflets ovate, blunt, villous chiefly beneath; peduncles few-flowered, exceeding the leaves; *calyx* villous, *4-fid: lobes as long as the tube, the superior 2-toothed; legume subcylindrical, very shaggy,* straightish, pendulous from very short pedicels.—*Mart. Bras.* 24. *t.* 49.—P. hirsutus, *Mart.* Dolichos lignosus, *Jacq. ex descr.* (*non L.*). D. Jacquini, *DC.*—Corolla yellow: standard 12‴ long; legume 3″ long, 3‴ diam.—HAB. Trinidad!, *Cr.*, in savannahs; [Guiana, equatorial Brazil].

101. **Ph. semierectus,** *L.* Stem erect, or twining above, sericeous or glabrescent; leaflets ovate or lanceolate; peduncles elongated, exceeding the leaves: pedicels very short, at length recurved; *calyx 5-toothed:* teeth ovate-lanceolate, pointed, the superior somewhat shorter; *legume subcylindrical,* sericeous or glabrescent, linear, acuminate-beaked, straightish, or slightly arcuate, reflexed.—*Sl. t.* 116. *f.* 1. *Jacq. Ic. Rar. t.* 558.—Ph. lathyroides, *L.*, the form with narrow leaflets. Ph. crotalarioides, *Mart.*—Corolla purple, 8‴–6‴ long; legume 3″–4″ long, 1½‴ diam.—HAB. Jamaica!, *Dist.*, *Al.*, common; Antigua!, *Wullschl.;* S. Vincent!, *Guild.;* [Cuba! to Brazil! and Peru!, East Indies!].

37. CANAVALIA, *DC.*

Calyx campanulate, bilabiate: upper lip larger, entire or bilobed, inferior 3-fid or entire. *Standard* roundish. *Vexillar* stamen adhering to the column above its base. *Legume* large, turgid-subcompressed, filled with cellular tissue: valves mostly costate along the suture.—Leaflets 3; inflorescence *axillary, racemose: pedicels very short;* flowers *purplish or white.*

102. **C. obtusifolia,** *DC.* Stem creeping or scandent, glabrescent; *leaflets roundish or obovate, blunt;* upper lip of the calyx broadly bilobed, much shorter than the tube; keel curved, blunt; *legume oblong,* shortly stipitate: *its prominulous ribs juxtamarginal.—Desc. Fl.* 8. *t.* 559. *f.* 2: the fruit. *Mart. Bras.* 24. *t.* 48.—Dolichos, *Lam.* D. roseus, *Sw.* C. rosea, *DC.*—Leaflets 3″–4″ diam.; corolla purplish, 1″ long; legume 6″–2″ long, 14‴–10‴ broad: the two ribs 1‴ distant from the suture; seeds chestnut-coloured, opaque, ovoid, subcompressed, 6‴–8‴ long.—HAB. Jamaica!, *Dist.*, common on the sandy seashore, creeping among stones; Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Cuba! to Brazil; tropical Africa to Natal!; tropical Australia!; East Indies!].

103. **C. gladiata,** *DC.* Stem twining, glabrescent; *leaflets ovate-oblong or ovate, mucronate;* upper lip of the calyx rounded, recurved, emarginate, longer than the tube: keel curved, blunt; *legume linear-oblong,* stipitate: *its prominulous ribs juxtamarginal.—Jacq. Ic. Rar. t.* 560.—Dolichos, *L.*—Leaflets 2″–5″ long, variable; corolla purplish, 1″ long; legume 10″–3″ long, 1″ broad: ribs 1‴–2‴ distant from the suture; seeds ovoid-oblong, subcompressed, 8‴ long.

α. Seeds rufous-brown, somewhat shining.

β. ensiformis, DC. Seeds white, with a brown rhaphe.—*Sl. t.* 114. *f.* 1–3.

HAB. Jamaica (*Sl.;* cultivated, *Macf.*); Antigua!, *Wullschl.;* [Mexico! to Brazil! and Buenos Ayres!, in woods; trop. Africa to Natal!; East Indies!].

104. **C. altissima,** *Macf.!* (*exclus. synon.*). Stem twining, glabrous; *leaflets elliptical-oblong, with a bluntish, mucronulate point;* upper lip of the calyx rounded, recurved, subretuse or entire, as long as the oblique tube; keel circinate-incurved, blunt; *legume linear-oblong,* shortly stipitate; *its prominulous ribs distant from the margin.*—A very distinct species, erroneously referred to *Mucuna altissima,* DC., by Macfadyen: from its exauriculated standard it belongs to another section of the genus from *C. gladiata.* A high climber; leaflets 2″–3″ long, glabrous; corolla purple, 10‴ long: standard devoid of auricles, reflexed; legume 9″–6″ long, 1″ broad: ribs 4‴ distant from the suture; seeds dark-brown, ovoid-roundish, compressed, 6‴ long.—HAB. Jamaica!, *Macf.*, *Dist.*, *Al.*, *Wullschl.*, *March,* common in woods.

38. DIOCLEA, *Kth.*

Calyx campanulate, 4-fid, sericeous inside. *Standard* roundish, auricled at the base. *Vexillar stamen* adhering to the column above its base. *Stigma* terminal. *Legume* sessile, compressed or turgid, filled with cellular tissue.—Twining shrubs; leaflets 3, *stipellate; inflorescence axillary, fascicled-racemose*: flowers *purplish, blue, or whitish.*

105. **D. guianensis,** *Benth.!* *Leaflets elliptical,* pointleted, glabrate above, velvety or sericeous beneath; racemes elongated: *bracts erect,* caducous; *calyx* much longer than its pedicel and the small roundish bracteoles: *lobes* ovate-lanceolate, *pointed*: the superior as long as the tube, the inferior longer; standard orbicular, reflexed: keel straightish, blunt, exceeded a little by the wings, minutely crenulate below; anthers all fertile; legume 5–8-seeded, velvety, bicostate along the suture: seeds compressed, half-surrounded by the rhaphe. —Dolichos comosus, *Mey.!* Mucuna, *DC.* D. panamensis, *Walp.!*: the velvety form.—Corolla purplish: standard 10‴–12‴ long; legume compressed, 4″–3″ long, 6‴ broad, oblong, tapering at the base: seeds brown, oval-roundish, 4‴ long.—Hab. Trinidad!, *Lane, Sch., Cr.*; [Panama! to Ecuador!; Guiana!].

106. **D. reflexa,** *T. Hook.* Leaflets large, *ovate-roundish,* mucronate, pubescent beneath; racemes elongated: *bracts* long, lanceolate, *reflexed; calyx* rusty-pubescent, much longer than its pedicel and the small roundish bracteoles: *inferior lobe* ovate-lanceolate, *blunt,* as long as the tube, the other shorter; standard orbicular, reflexed: keel much exceeded by the wings, incurved, with a blunt beak; anthers 5, sterile; "legume ovate-oblong, few-seeded."—A high, stout, rusty-hairy climber; leaflets 6″–4″ long; corolla 8‴ long.—Hab. Jamaica!, *Wils.*, uncommon, [central America to Brazil; Niger; East Indies].

39. MUCUNA, *Ad.*

Calyx shortly campanulate, 4-fid or 4-toothed. *Standard* conduplicate, tapering abov , auricled at the *base,* usually exceeded by the wings: keel cartilagineous at the top! *Stamens* diadelphous: anthers alternately unequal. *Stigma* terminal. *Legume* thick, leathery, usually covered with stinging hairs.—Twining herbs *or* shrubs; leaflets 3; peduncles *long, often pendulous;* flowers *large, fascicled-racemose or fascicled.*

107. **M. pruriens,** *DC.* Leaflets subsericeous beneath, the terminal rhomboid, the lateral very obliquely deltoid; racemes elongated; calyx 4-fid: the superior lobe broadly deltoid; *standard* ovate, *half as long as the wings:* keel with a shortly exserted, cartilaginous beak; *legume devoid of transverse crests,* oblong-linear, curved, densely covered with brown, brittle hairs.—*Br. Jam. t.* 31. *f.* 4: *analyt. Jacq. Amer. Pict. t.* 188. *Desc. Fl.* 1. *t.* 49. *Mart. Bras.* 24. *t.* 46. *f.* 2.—Dolichos, *L.*—Corolla dark-blue or purple, 15‴–18‴ long: standard pale in Jacquin's figure.—Hab. Jamaica!, *Dist., Wullschl.*, common; Caribbean Islands!; [all tropical countries].

108. **M. urens,** *DC.* Leaflets sericeous beneath, the terminal ovate, the lateral oblique; flowers fascicled; inferior calyx-lobe lanceolate, as long as its tube, superior shorter, deltoid; *standard* ovate-lanceolate, half as long as the wings: keel with a shortly exserted, cartilaginous beak; *legume with numerous, transverse, foliaceous crests,* compressed, oblong, hirsute.—*Jacq. Amer. Pict. t.* 189. *Tuss. Fl.* 2. *t.* 13.—Dolichos, *L.* Negretia, *Tuss.*—Corolla yellow, 2″ long. Hab. Jamaica! *Al., Wullschl.*, uncommon; Caribbean Islands!; [Cuba and Panama! to Peru! and Brazil!].

109. **M. altissima,** *DC.* Leaflets glabrous, elliptical, pointleted; racemes short, long-peduncled; calyx sericeous, four-toothed: the three superior teeth small or obsolete, the inferior longer; *standard* ovate-oblong, *nearly as long as the wings;* beak of the keel cartilaginous, bluntish, equalling the wings; *legume with numerous, transverse, convex lines,* compressed, spathulate, oblong, hirsute.—*Jacq. Amer. Pict. t.* 190.—Dolichos, *Jacq.*—Corolla 18‴ long: standard and wings blue or purple, keel greenish-yellow; legume 6″ long, 1½″ broad below its pointed top, callous on the margins, rusty-hirsute: seeds orbicular, compressed, 8‴–10‴ diam., almost wholly surrounded by the rhaphe.—Hab. Jamaica!, *Wils.*, rare, in mountain-woods, Manchioneal; [French islands; Panama! Brazil!].

40. ERYTHRINA, *L.*

Standard conduplicate, exauricled, much exceeding the wings, which are often included within the calyx. *Stamens* monadelphous at the base: vexillar filament often free above it. *Legume* stipitate, torulose, linear, falcate, filled with cellular tissue, sometimes follicular, or indehiscent.—Shrubs *or* trees, *often prickly;* leaflets 3; inflorescence *fascicled-racemose;* flowers *usually scarlet.*

Rudolphia rosea, Tuss. [of Haiti!], connects *Erythrina* and *Dioclea*, having the corolla of the former, and the calyx and legume of the latter genus: it has further a twining stem and single leaflets.

Sect. 1. Euerythrina.—*Calyx campanulate, truncate. Carinal petals distinct, included within the calyx.*

110. **E. Corallodendron,** *L.* Arboreous, prickly, glabrous; leaflets ovate-rhomboid; calyx-teeth obsolete; *standard erect, linear-oblong,* obtusate (2″ long), 6–4 times exceeding the wings and keel; legume many-seeded, moniliform, beaked, subcompressed, glabrous.—*Sl. t.* 178. *Desc. Fl.* 4. *t.* 291.—E. speciosa, *Andr.* (*Bot. Repos. t.* 443).—Calyx 4‴–6‴ long, a little exceeded by the wings; standard scarlet; seeds scarlet, usually with a little black spot.—Hab. Jamaica (*Macf.*), common; Antigua!, *Wullschl.;* St. Vincent!, *Guild.;* [Mexico! to Brazil].

Sect. 2. Chirocalyx.—*Calyx spathaceous. Carinal petals distinct, small.*

111. **E. velutina,** *W.* Arboreous, prickly; leaflets ovate-rhomboid, rounded at the top, furfuraceous-tomentose beneath; *calyx cleft almost to the base:* teeth 5, minute; *standard reflexed, orbicular,* (1″–1½″ diam.): wings and keel nearly as long as the calyx; stamens longer than the standard; legume few-seeded, sinuate, contracted below, velvety.—*Bot. Mag. t.* 3227.—Calyx 9‴–12‴ long, tomentose; standard scarlet; vexillar stamen free above its base.—Hab. Jamaica!, *Pd.*, *Al.*, in the southern plains; [Venezuela! to Brazil].

112*. **E. indica,** *Lam.* Arboreous, glabrous; leaflets ovate-rhomboid; *calyx cleft almost to the base:* teeth 5, minute; *standard slightly recurved, ovate-oblong, bluntish,* (2″ long), 2–3 times exceeding the wings and keel; stamens shortly exserted; legume 6–8-seeded, moniliform, glabrous.—*Wight, Ic.* 1. *t.* 58.—Calyx 1″, legume 6″ long.—Hab. Naturalized in Antigua!, *Wullschl.;* St. Vincent!, *Guild.;* [East Indies!, Pacific Islands!].

Subtribe 7. *DALBERGIEÆ.—Legume indehiscent; stamens monadelphous, or variously combined.*—Stem woody; leaves pinnate, or reduced to a single leaflet.

41. LONCHOCARPUS, *Kth.*

Calyx shortly 5(–4)-dentate or subentire. *Wings* adhering to the keel. *Vexillar* stamens adhering to the column above its base. *Ovules* several or many. *Legume* compressed, often sinuate, wingless.—Leaves *impari-pinnate:* leaflets *opposite;* racemes *axillary;* pedicels *often geminate or bifid;* flowers *purplish.*

113. **L. latifolius,** *Kth.* *Leaflets* 2–4-jugal, elliptical or lanceolate-oblong, pointed, paler and *minutely puberulous beneath;* calyx rusty-sericeous: teeth minute, distant; *standard sericeous; legume thin-membranaceous,* glabrous, subsinuate-oblong, pointed, tapering at the base, 3–1-seeded.—Robinia sepium, *Sw.* (*non Jacq.*). Amerimnum latifolium, *Sieb. Mart.* 176. L. Swartzii, *DC.* L. oxycarpus, *DC.* L. macrophyllus, *Walp.* (*non Kth.*). Piscidia carthaginensis, *Macf.* (*non Jacq.*).—A shrub or tree: leaflets 6″–3″ (–2″) long, variable in breadth (2″–1″ broad): down appressed; flowers pale purple; calyx 1‴, corolla 4‴ long; legume 3″–2″ long, 12‴–10‴ broad, somewhat contracted between the seeds.—Hab. Jamaica!, *Macf.*, *Al.*, *Wils.*, *Wullschl.:* a form with narrow leaflets; Dominica!, *Imr.;* S. Lucia!, *Anders.;* Trinidad!, *Pd.;* [Haiti!, French islands!; Teapa, Panama!, New Granada!, Guiana].

114. **L. violaceus,** *Kth.* *Leaflets* 4(–2–6)-jugal, ovate, with a bluntish point, pellucid-dotted, *glabrous;* calyx glabrous, subtruncate; *standard glabrous; legume hard-membranaceous,* glabrous, sinuate-oblong, pointed, tapering and acute at the base, 3–1-seeded.—*Jacq. Amer. Pict.* 261. *f.* 61: the flower. *Desc. Fl.* 7. *t.* 522.—Robinia, *Jacq.* R. sepium, *Sieb. Mart.* 182 (*non Sw.*).—A low tree, 12′ high; leaflets 2½″ long, 1½″–1″ broad; flowers violet; calyx 2‴, corolla 6‴–7‴ long; legume 4″–2″ long, 1″ broad, contracted between the seeds.—Hab. Antigua!, *Nichols.*, *Wullschl.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 133; [French islands!, Venezuela!, New Granada].

115. **L. sericeus,** *Kth.* Leaflets 4(3–9)-jugal, oval-oblong, pubescent beneath or glabrescent; calyx sericeous, subtruncate; *standard sericeous; legume woody, tomentose* (or tuberulous), straightish-repand or sinuate on the margin, oblong, shortly stipitate, 4–2(–1)-seeded.—Robinia, *Poir.*—A tree; leaflets 8″–2½″, calyx 2‴, corolla 8‴ long; flowers purple; legume 4″–2″ long, 9‴–8‴ broad.

α. Leaflets pointleted, rounded at the base; calyx somewhat exceeded by the large caducous bracteoles; legume tomentose.

β. jamaicensis. Leaflets blunt, subacute at the base, glabrous; bracteoles minute; legume puberulous.

Hab. Jamaica!, *Dist.* (*α*), *Pd.* (*β*, in rocky places, Manchester); Montserrat, Trinidad; [Cuba! to Brazil; western trop. Africa].

42. MUELLERA, *L. fil.*

Character of *Lonchocarpus,* but "legume nearly terete in the transverse section at the seeds."

116. **M. moniliformis,** *L. fil., Mey. Esseq.!* Leaflets bijugal, elliptical, usually pointed, with scattered pellucid dots, glabrous; pedicels geminate, single; calyx puberulous or glabrescent, subtruncate: teeth minute, distant; *standard glabrous;* legume many(–1)-seeded, moniliform, deeply constricted between the seeds.—*Aubl. t.* 356. *Miq. Surinam. t.* 4.—Coublandia frutescens, *Aubl.* Lonchocarpus pterocarpus, *Miq.! in Pl. Hostm.* (*non DC.*). Sphinctolobium glaucescens, *Miq.*—A tree or shrub; leaflets membranaceous, 3″–1½″ long; flowers purplish: calyx 2‴, corolla 8‴ long.—Hab. Trinidad!, *Cr.*, at Irais; [Guiana].

43. PISCIDIA, *L.*

Calyx shortly and broadly 5-dentate. *Wings* adhering to the falcate keel. *Stamens* and ovary of *Lonchocarpus. Legume* compressed, shortly stipitate, bearing along both margins two broad membranaceous longitudinal wings.—A tree; leaves *impari-pinnate:* leaflets *opposite;* racemes *lateral, precocious, compound:* pedicels *jointed above;* flowers *whitish, with a purplish tinge.*

117. **P. Erythrina,** *L.*—*Sl. t.* 176. *f.* 4, 5.—P. carthaginensis, *L.:* a form with larger bluntish leaflets; *DC.:* a form with a shorter legume-stalk.—15′–30′ high; leaflets 5–3-jugal, pubescent or glabrescent, oblong or elliptical, pointed or blunt; flowers 6‴–8‴ long; legume 4″–2″ long, 4‴ broad, puberulous: stalk 5‴–2‴ long, usually 2–3 times as long as the calyx, sometimes scarcely exserted: wings transversely striate, lacerate, or repand, each 8‴–6‴ broad; seeds 6–8, transversely oblong, black, subcompressed, 3½‴ long.—Hab. Bahamas!, *Swains.;* Jamaica!, all. coll., common; Antigua!, *Wullschl.;* S. Lucia!, S. Vincent!; [Florida! to Guayaquil!].

44. PLATYMISCIUM, *Vog.*

Calyx 5-dentate. *Wings* free: carinal petals distinct below. *Ovary* 1-ovulate, long-stipitate. *Legume* flat-compressed, membranaceous, stipitate, seminiferous in the middle, firmly cohering and wing-like around the seed.—Leaves *opposite!, impari-pinnate, glabrous;* leaflets *opposite;* racemes *axillary:* pedicels *simple, jointed at the top;* flowers *yellow.*

118. **P. platystachyum,** *Benth.* Leaflets 5 (7–3), elliptical, blunt, or with a bluntish point, chartaceous; racemes simple; pedicels as long as or somewhat longer than the calyx; standard roundish, as long as the wings; legume oval-oblong, 5–8 times as long as its stalk.—

Seem. Panam. t. 21.—P. Trinitatis, *Benth.!:* a form with puberulous racemes.—Leaflets 2″–3″ long, shining above: stipules deciduous; pedicels 3‴, corolla 6‴, legume 3″–2½″, its stalk 6‴–3‴ long; seed oval, 1″ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Pd.; Cr.;* in mountain woods, S. Anns; [Veraguas!, Panama!, Venezuela!].

45. PTEROCARPUS, *L.*

Calyx unequally 5-dentate, turbinate at the base. *Staminal* sheath open on the upper or both sides. *Ovary* several- or 1-ovulate. *Legume* usually hard, compressed, roundish, attenuated on the edges, or narrowed by a wing, seminiferous in the middle.—Trees; leaves *impari-pinnate:* leaflets *alternate, reticulated;* racemes *usually compound;* flowers *yellow.*

119. **P. Draco,** *L.* Leaflets 7 (5–9), oblong, bluntish or pointleted, shining-glabrous; bracteoles minute; *calyx glabrous,* longer than the puberulous pedicel; *legume* glabrous, *stipitate,* corky-rugose, with a very oblique axis, 1-seeded, surrounded by a narrow wing, which is less distinct on the carinal edge.—*Jacq. Amer. Pict. t.* 264. *f.* 91: a leaf. *Aubl. t.* 299.—P. suberosus, *Pers.* Moutouchia, *Aubl.*—25′–30′ high; calyx turning black in drying; corolla 6‴ long; legume 2″–1½″ diam.: wing 4‴–3‴ broad on the vexillar edge.—HAB. Jamaica!, *Wils.;* rare at Manchioneal; Trinidad!, *Cr.;* [Guadeloupe!; Nicaragua, Guiana!, Venezuela].

120. **P. Rohrii,** *V., Mey.!* Leaflets 7–9 (–5), elliptical-oblong, shining-glabrous; bracteoles linear, often nearly as long as the calyx; *calyx rusty-tomentose,* longer than the pedicel; ovary sessile, tomentose; *legume sessile,* submembranaceous, slightly thickened in the middle.—*Aubl. t.* 147. *f.* 5 *b:* the legume.—Amphymenium, *Kth.* Phellocarpus floridus, *Benth.*—Corolla 6‴ long.—HAB. S. Vincent!, *Guild.;* [Venezuela, Guiana!, equatorial Brazil].

46. DREPANOCARPUS, *Mey.*

Calyx shortly 5-dentate, blunt at the base. *Column* of *Pterocarpus.* *Ovary* 1-ovulate. *Legume* hard, compressed, wingless, circinate-falcate.—Leaves *impari-pinnate:* leaflets *alternate, penninerved;* racemes *compound.*

121. **D. lunatus,** *Mey.!* Armed with recurved, setaceous, stipular spinules; *leaflets* 5–11, oblong, rounded at the top, *glabrous: veins straight, approximate;* racemes in a terminal panicle; *legume* stipitate, thickish, reticulated-rugose, glabrous, *reniform-cochleate.*—*Plum. Ed. Burm. t.* 201. *f.* 2.—A shrub; leaflets 1½″ long, 8‴ broad; flowers violet; legume 6‴–8‴ broad, forming a complete circle with a narrow sinus: stalk 4‴ long.—HAB. S. Lucia!, S. Vincent!, *Guild.,* in maritime swamps; [Haiti and Mexico! to Brazil; trop. coast of Western Africa].

47. MACHÆRIUM, *Pers.*

Character of *Drepanocarpus,* but legume produced at the top into a long wing, which is reticulated-veiny, and thickened on the inferior edge.

122. **M. angustifolium,** *Vog.* Armed with strong, recurved, stipular spines; *leaflets* 12–30-*jugal, oblong-linear,* retuse, penninerved with straight approximate veins, puberulous or glabrescent beneath: petioles and panicles rusty-pubescent; flowers pedicellate, violet; standard slightly pubescent, twice as long as the calyx: keel falcate; column closed on the inferior side; ovary villous, curved, long-stipitate; "legume pubescent, with a glabrescent wing."—Drepanocarpus microphyllus, *E. Mey.* M. affine, *Benth.*—A tree; leaflets 8‴–12‴ long, 2‴ (–3‴) broad.—HAB. Trinidad!; *Cr.;* [Panama! to Brazil].

123. **M. robinifolium,** *Vog.* Armed with strong stipular spines; *leaflets* 8–17-*jugal, oblong,* retuse, penninerved with straight approximate veins, puberulous or glabrescent beneath: petioles and panicles rusty-pubescent; flowers pedicellate; standard glabrescent, twice as long as the calyx; keel falcate, column at length split into 2 equal bundles; ovary villous, curved, long-stipitate; legume . . . .—Nissolia, *DC.* Drepanocarpus isadelphus, *E. Mey.* M. Sieberi, *Benth.*—Nearly allied to the preceding; leaflets 20‴–12‴ long, 7‴–4‴ broad.—HAB. S. Vincent, Trinidad!, *Sch., Cr.;* [Panama!, Guiana!, equatorial Brazil!].

48. HECASTOPHYLLUM, *P. Br.*

Calyx shortly and unequally 5-dentate. *Stamens* 10–9: *anthers* bifid-didymous. *Ovary* long-stipitate, 2-ovulate. *Legume* roundish, flat-compressed, wingless, 1-seeded.—Leaves *impari-pinnate or* 1-*foliolate:* leaflets *alternate;* racemes *short, usually corymbose, axillary:* flowers *small.*

124. **H. Brownii,** *Pers.* *Leaflets single,* ovate or ovate-oblong, pointleted, *pubescent beneath;* corymbs as long as the petiole, rusty-tomentose; stamens 10, diadelphous; legume coriaceous, oblique, nearly orbicular, smooth, pubescent: stalk as long as the calyx.—*Br. Jam. t.* 32. *f.* 1. *Desc. Fl.* 4. *t.* 258.—H. Sieberi, *Rchb.!* Pterocarpus Ecastaphyllum, *L.*—A shrub; flowers white, 3‴–4‴ long; legume 10‴–12‴ diam.—Hab. Jamaica!, *Pd., Dist., March,* common in maritime thickets; Antigua!, *Wullschl.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! and Panama! to Southern Brazil!, along the coast; African coast, from Senegambia! to Guinea!].

125. **H. monetaria,** *DC.* *Leaflets* 3–5 (–2), ovate or oval, pointleted, *glabrous;* corymbs much shorter than the common petiole, glabrescent; calyx puberulous; stamens 9, triadelphous, with the column split into 4-androus bundles; legume coriaceous, slightly asymmetrical, oval-orbicular, smooth, glabrous: stalk longer than the calyx.—*Plum. Ed. Burm. t.* 246. *f.* 2. *Miq. Surin. t.* 5.—Dalbergia, *L.* H. Plumieri, *Pers.* H. Benthamianum, *Miq.*—Leaflets variable, 6″–2″ long, the terminal larger than the lateral ones; flowers 3‴ long; legume 10‴–12‴ diam.—Hab. Trinidad!, *Pd., Cr.;* [Haiti: Guiana!, Rio Negro!].

49. DALBERGIA, *L.*

Calyx unequally 5-dentate. *Stamens* 10–9: *anthers* bifid-didymous. *Ovary* stipitate, 2- or several-ovulate. *Legume* oblong or linear, compressed, thin, wingless.—Leaves *impari-pinnate or* 1-*foliolate.*

126. **D. Amerimnum,** *Benth.* Shrubby, trailing, glabrous or glabrescent; *leaflets single,* ovate, pointed, archnerved; racemes lax, corymbose, exceeding the petiole: pedicels longer than the calyx; calyx shortly bilabiate: teeth blunt; standard obcordato-oblong; stamens 10, monadelphous; legume leathery, biconvex, curved, smooth, 3–1-seeded, stipitate.—*Br. Jam. t.* 31. *f.* 3. *Jacq. Amer. Pict. t.* 263. *f.* 86.—Amerimnum Brownii, *Jacq.*—10′–12′ high; leaves shining; flowers white, 5‴–6‴ long; legume 12‴–6‴ (–24‴) long, 3‴ (–5‴) broad, slightly falcate, bluntish.—Hab. Jamaica!, *Macf., Dist., Wils., March, Wullschl.,* forming impenetrable thickets; Haiti, Guadeloupe!; Venezuela!, Panama!, Pacific coast of New Granada!].

50. ANDIRA, *Lam.*

Calyx shortly 5-dentate or truncate. *Carinal* petals distinct. *Ovary* stipitate, few(–1)-ovulate. *Legume* "drupaceous, ovoid-roundish, 1-seeded."—Trees; leaves *impari-pinnate;* flowers *paniculate, purplish.*

127. **A. inermis,** *Kth.* *Leaflets* 4–8-jugal, opposite, lanceolate-oblong or oblong, *acuminate,* or with a bluntish point, *glabrous;* panicle large, terminal, rusty-pubescent; calyx campanulate: teeth 3-angular, bluntish, petals nearly of equal length; *ovary glabrous, hairy on the anterior margin,* long-stipitate.—*Lam. Ill. t.* 604. *f.* 1. *Aubl. t.* 373. *Desc. Fl.* 1. *t.* 53.—Geoffroya, *Sw.* A. racemosa, *Lam.* A. grandiflora, *Guil. Perr.!* Voucapoua americana, *Aubl.*—Corolla glabrous, rosy; "legume ovoid."

α. Flowers shortly pedicellate; corolla 6‴–5‴ long: standard orbicular: its lamina twice as long as the calyx.

β. sapindoides, Benth.! Pedicels often half as long as the calyx; corolla 7‴–8‴ long: standard obovate: its lamina thrice as long as the calyx.—Pterocarpus, *DC.*

Hab. Jamaica!, *Dist., Al., Wullschl.,* common in the hills and along river-banks (*α*); S. Kitts! (*α*); Antigua!, *Wullschl.* (*β*); Dominica!, *Imr.* (*β*); S. Vincent!, *Guild.;* Trinidad!, *Lockh., Sieb. Trin.* 47 (*α*); [Cuba! and Mexico! to Guiana!; Senegambia!].

128. **A. retusa,** *Kth.* *Leaflets* 3–4(–"6")-jugal, opposite, oblong, *retuse,* or mucronulate at the rounded top, glabrous above, rusty-puberulous (or "glabrescent") beneath; compound racemes as long as the leaves: branches distant, rusty-puberulous; calyx campa-

nulate: teeth 3-angular; petals nearly of equal length; *ovary glabrous.—Lam. Ill. t.* 604. *f.* 2.—A. Aubletii, *Bernh. in Pl. Kappl.* (*non Benth.*). Geoffroya pubescens, *Rich.*—Our specimens differ slightly from former descriptions by the persistent down and the number of the leaflets; corolla violet, 7‴ long; "legume very large, irregular, corky" (*Cr. in lit.*).—Hab. Trinidad !, *Cr.;* [Guiana !].

51. GEOFFROYA, *Jacq.*

Calyx oblique, 5-dentate: tube turbinate. *Carinal petals* distinct. *Ovary* sessile or shortly stipitate, few-ovulate. *Legume* "drupaceous, ovoid, 1-seeded."—Trees; leaves *impari-pinnate:* leaflets *usually alternate;* flowers *in simple racemes, yellow.*

129. **G. Sieberi,** *Benth.* "Leaflets 4–5-jugal, oval or oblong, blunt or retuse, glabrous, pale beneath; racemes tomentose-pubescent; standard glabrous; ovary shortly stipitate, pubescent."—Not known but from Sieber's specimen. "Leaflets $1\frac{1}{2}''$–$2''$ long, $1''$–$1\frac{1}{4}''$ broad; flowers 10‴–11‴ long."—Hab. Trinidad (*Sieb. Tr.* 313).

Subtribe 8. *SOPHOREÆ.—Stamens distinct.*—Stem usually woody; leaves impari-pinnate, (rarely 1-foliolate).

52. ORMOSIA, *Jacks.*

Calyx bilabiate. *Standard* roundish: carinal petals connected. *Stigma* lateral. *Legume* woody, few- or 1-seeded, wingless, at length 2-valved. *Embryo* straightish, hard.—Trees; leaves *impari-pinnate:* leaflets *opposite;* panicle *terminal.*

130. **O. dasycarpa,** *Jacks.* Leaflets 5-jugal, oblong, pointed, glabrous; panicle large, rusty-tomentose, calyx rusty-tomentose: lobes blunt; legume obliquely rhomboid-ovoid, stipitate, tomentose, 1-seeded.—Sophora monosperma, *Sw.*—A timber tree; leaflets 4″–3″ long, 20‴–12‴ broad; flowers blue, 8‴ long; legume $1\frac{1}{2}''$ long, 1″ broad: stalk 4‴ long, thickish: seed compressed-globose, red, with a black blotch.—Hab. Montserrat, Dominica !, *Imr.*, in mountain woods, S. Vincent !, *Guild.;* [Guadeloupe !].

53. SOPHORA, *L.*

Calyx obliquely subtruncate. *Standard* tapering at the base: carinal petals distinct at the top. *Legume* moniliform, wingless, indehiscent, many-seeded.—Leaves *impari-pinnate:* leaflets *opposite;* flowers *racemose.*

131. **S. tomentosa,** *L.* Shrubby; leaflets 6–12-jugal, oval or oval-roundish, hoary-tomentose beneath or on both sides: stipules none; raceme terminal, elongated, velvety; calyx campanulate; standard ovoid-oblong; stamens included; legume dry, glabrescent, 5–6-seeded.—*Sl. t.* 178. *f.* 3. *Br. Jam. t.* 31. *f.* 1. *Desc. Fl.* 7. *t.* 375.—S. occidentalis, *L.* S. havanensis, *Jacq.* Astragalus lanuginosus, *Desc.*—4′ high; flowers pale yellow, 1″ long; seeds brownish-red, globose: embryo hard, straight.—Hab. Jamaica !, *Dist.*, *March*, on the seashore; Antigua !, *Wullschl.;* [Cuba to Brazil !, trop. Africa !, East Indies !, trop. Australia !, Pacific Islands !; along all tropical seashores].

54. DIPLOTROPIS, *Benth.*

Calyx bilabiate. Four inferior petals nearly alike, with the carinal ones distinct or connected below: vexillar petal larger. *Stamens* alternately of unequal length. *Legume* 1–2-seeded, compressed, leathery, indehiscent. "*Embryo* straight."—Leaves *impari-pinnate:* leaflets *opposite;* racemes *compound.*

132. **D. brachypetala,** *Tul.* Leaflets large, leathery, 2–3-jugal, elliptical, oblong, or obovate-oblong, glabrous; panicle sericeous, many-flowered: branches distant, peduncled: flowers pendulous, subunilateral; calyx obliquely turbinate, divided to the middle, pubescent: upper lip broad-ovate, blunt, subentire, 3 inferior lobes 3-angular, bluntish, smaller; *petals shortly exserted:* standard roundish, carinal petals distinct; "legume large, ovoid-oblong" (*ex herb. Hook.*).—Leaflets 10″–4″, pedicels 2‴, calyx 4‴, corolla 5‴ long: "legume shortly stipitate, 4″ long: seeds 2–1."—Hab. S. Vincent !, *Guild.;* Trinidad !, *Cr.;* [Guiana].

55. MYROSPERMUM, *Jacq.*

Calyx obsoletely 5-dentate. Four inferior petals alike, distinct, vexillar roundish. *Legume* indehiscent, 1–2-seeded, attached by means of an oblong, stipitate wing. *Radicle* inflexed.—Leaves *impari-pinnate:* leaflets *alternate, pellucid-striate or dotted;* flowers *racemose.*

133. **M. frutescens,** *Jacq.* Leaflets 5–7-jugal, membranaceous, oblong or oval-roundish, retuse or blunt, glabrous, striate with pellucid lines; legume as broad as the wing, which tapers at the base into a short stalk.—*Jacq. Amer. Pict. t.* 118: the wing is represented as sessile, perhaps erroneously. *Kth. N. Gen. t.* 570, 571.—M. emarginatum, *Kl. in herb. Hook.*—A tree or shrub; leaflets 10‴–12‴ long; corolla white, with a rosy tinge; legume (the wing included) 2″–3″ long: stalk 4‴ long: the resiniferous legume-vessels of the section *Myroxylon* are wanting.—Hab. Trinidad!, *Lockh.;* [Venezuela!, New Granada].

Tribe II. *CÆSALPINIEÆ.—Flowers not papilionaceous. Carinal petals exterior in the bud. Embryo mostly straight.*

56. HÆMATOXYLON, *L.*

Calyx 5-partite. *Petals* 5, nearly equal. *Stamens* 10. *Ovary* few-ovulate, shortly stipitate. *Legume* compressed, membranaceous, bursting at the middle of the flat facets.—A tree; leaves *abruptly pinnate:* leaflets *few-jugal;* flowers *racemose, yellow.*

134. **H. campechianum,** *L.—Tuss. Fl.* 4. *t.* 36. *Desc. Fl.* 2. *t.* 73.—Branches white-barked, often spiny; leaflets 4–3-jugal, obovate, retuse, glabrous; racemes axillary; legume oblong-lanceolate, tapering at both ends.—Hab. Naturalized and now common in Jamaica!, *Dist., Al., Wils.;* Antigua!, *Wullschl.;* S. Lucia!, Trinidad!; [Yucatan! to Guiana!; cultivated in many tropical countries].

57. PARKINSONIA, *L.*

Calyx 5-partite. *Petals* 5, the vexillar broader. *Stamens* 10. *Ovary* sessile. *Legume* linear, compressed between the seeds, many- or few-seeded, bivalved.—Spiny shrubs; leaves *bipinnate with clustered pinnæ:* primary petioles *abortive,* secondary *elongated, abruptly pinnate with minute leaflets;* flowers *racemose, yellow.*

135. **P. aculeata,** *L.* Pinnæ 1–2-jugal: secondary petioles winged, linear-acuminate; leaflets minutely oblong or obovate, blunt, uppermost (or many) abortive.—*Jacq. Amer. Pict. t.* 119. *Desc. Fl.* 1. *t.* 12.—12′–15′ high; leaflets 2‴–1‴ long.—Hab. Jamaica!, *Al.;* Antigua!, *Wullschl.;* S. Vincent!, *Guild.;* Barbadoes!, Trinidad!, in fences; [California! to Montevideo!; cultivated in all tropical countries].

58. GUILANDINA, *L.*

Calyx 5-partite. *Petals* 5, nearly equal. *Stamens* 10: filaments villous below. *Legume* broadly ovate-oblong, convex-compressed, bivalved, few(–1)-seeded, prickly, shortly stipitate: seeds large, bony, subcompressed-globose.—Prickly, trailing shrubs; leaves *abruptly bipinnate:* primary and secondary petioles *puberulous, bearing recurved prickles:* leaflets 5–8-*jugal, pellucid-dotted, mucronate;* flowers *racemose, rusty-yellow:* bracts *subulate, deciduous.*

136. **G. Bonduc,** *L.* (*ex syn. Sl.*). *Leaflets* puberulous or glabrescent, oval or ovate, blunt, *very unequal at the base:* stipules abortive; bracts as long as the pedicels; *seeds yellow.*—G. microphylla, *DC.*—Leaflets 8‴–12‴ long, 6‴–8‴ broad.—Hab. Jamaica!, *Pd.;* Antigua!, *Wullschl.*, on the sandy seashore; [Guadeloupe!].

137. **G. Bonducella,** *L. Leaflets* puberulous or glabrescent, oval-oblong, blunt, *subcordate at the nearly equal base:* stipules cut into large segments; bracts longer than the pedicels, recurved; *seeds lead-coloured.—Schrank, Fl. Monac. t.* 68. *Desc. Fl.* 2. *t.* 90. G. Bonduc, *Auct.*—Higher than the preceding; leaflets 18‴ long, 8‴–10‴ broad.—Hab. Jamaica (*Sl.*); Dominica!, *Imr.;* [Florida to Brazil!, along the coast; trop. Africa!, Mascate!, East Indies!, Pacific Islands!].

138. **G. glabra,** *Mill.* *Leaflets glabrous*, shining, elliptical or elliptical-oblong, *equal at the rounded base, pointed:* stipules abortive; bracts as long as the pedicels; seeds "grey" (*Duchass.*).—Leaflets papery, 3″–2″ long, 1½″–1¼″ broad.—HAB. Jamaica!, *Al.*, *March*, *Wullschl.;* [Martinique!].

59. CÆSALPINIA, *L.*

Calyx-tube turbinate, persistent: limb coloured, 5-partite: inferior segment larger, vaulted. *Petals* 5, unequal. *Stamens* 10. *Stigma* concave, minutely ciliate. *Legume* oblong, straightish, unarmed, wingless, sessile or shortly stipitate.—Stem woody; leaves *abruptly bipinnate;* flowers *racemose:* pedicels *jointed, destitute of bracts.*

Sect. 1. NICARAGUA.—*Legume baccate, indehiscent, tumid-compressed, few-seeded.*—Flowers in compound racemes, yellow.

139. **C. bijuga,** *Sw.* Arboreous, prickly (or unarmed), glabrous; *pinnæ* 2–3-*jugal: leaflets* 2(–1)-*jugal*, obversely deltoid-roundish or obliquely rhomboid, slightly retuse, pellucid-dotted; pedicels jointed below the top; petals exceeding a little the shorter calyx-segments, as long as the sexual organs; filaments and ovary villous; stigma thickish; *legume* 3(–1)-*seeded, succulent*, black, straight, sessile.—*Sl. t.* 181. *f.* 2, 3.—Poinciana, *L.* C. ventricosa, *L.* C. glandulosa, *Bert.* Acacia Bancroftiana, *Bert.!*—15′–20′ high; leaflets 12‴–9‴ long, 10‴–8‴ broad; petals 4‴–5‴ long; legume impressed transversely with spurious dissepiments, tumid on the margins, bluntish at the top, 2″–1″ long, 6‴ broad, 2‴–3‴ thick: seeds shining-brown, compressed-globose, 4‴ diam.—HAB. Jamaica!, *Bancr.*, *Al.*, *Wils.*, in dry savannahs and on limestone-rocks; [Cuba!, Haiti!, Curaçao].

Sect. 2. SAPPANIA.—*Legume dry, bivalved, many-seeded.*—Flowers in simple racemes.

140*. **C. sepiaria,** *Roxb.* Shrubby, prickly, puberulous above; *pinnæ* 6–10(–4)-*jugal:* leaflets 8–12-jugal, oblong, rounded or subtruncate at the top, puberulous beneath or glabrescent: stipules semisagittate, deciduous; pedicels long, jointed at the top; petals exceeding a little the calyx; *filaments shortly exserted*, villous below; stigma thickish; *legume* 6–8-seeded, glabrescent, obliquely long-cuspidate, *sessile.*—*Wight, Ic. t.* 37.—C. horrida, *Rich. Cub.* (*non Hassk.*).—Diffuse or trailing; leaflets 6‴–5‴ long, 2‴ broad, pale beneath; petals 6‴ long; legume flat-compressed, at length tumid, devoid of dissepiments, rounded at both ends, 2½″–2″ long, 10‴–8‴ broad: seeds ovoid, variegated-black, 4‴ long.—HAB. Naturalized in Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba, Guadeloupe!; introduced from the East Indies! for growing fences].

141. **C. pulcherrima,** *Sw.* Shrubby, prickly, glabrous; *pinnæ* 9–3-*jugal:* leaflets 10–5-jugal, oblong or spathulate-oblong, rounded or subtruncate at the mucronulate top; racemes terminal, pyramidal: pedicels very long, jointed below the top; petals exceeding the calyx, often lacerate on the margin; *sexual organs thrice as long as the corolla;* filaments slightly hairy below; stigma minute; *legume* 8–10-seeded, glabrous, shortly cuspidate, and *shortly stipitate.*—*Jacq. Amer. Pict. t.* 120. *Desc. Fl.* 1. *t.* 6.—Poinciana, *L.*—10′–12′ high; leaflets 6‴ long; petals red-orange (rarely yellow), 1″ long; legume flat-compressed, obliquely rounded at the top, intercepted with cellular tissue between the seeds, 4″–5″ long, 8‴–10‴ broad: stalk 1½‴–2‴ long.—HAB. Jamaica (*Macf.*); S. Kitts!, *Els.;* Antigua!, *Wullschl.;* S. Vincent!, *Guild.;* Trinidad!, *Sch.;* [Cuba! and Mexico! to Brazil!; trop. Africa!, East Indies!, Pacific Islands!].

142. **C. crista,** *L.*, *Sw.* Shrubby (or arboreous), prickly, glabrous; *pinnæ* 4(–5–1)-*jugal:* leaflets 5–3(–9)-jugal, obovate-oblong or oblong, retuse or rounded at the top; racemes terminal: pedicels long, jointed below the top; petals shorter than the calyx; *sexual organs* 2–3 *times as long as the calyx;* filaments squamulose below; stigma thickish; *legume* 10–7-seeded, glabrous, obliquely acuminate, *shortly stipitate.*—*Catesb. Carol.* 2. *t.* 51. *Desc. Fl.* 7. *t.* 503, 4: *bad.*—C. bahamensis, *Lam.*- Leaflets variable, 12‴–5‴ (–18‴) long, 5‴–2½‴ (–12‴) broad; flowers "whitish"; odd calyx-segment twice as long as the rest, reflexed, somewhat longer than its tube, which is 3‴ long; sexual organs 1″ long; legume flat-compressed, scimitar-shaped at the top, continuous inside, 3″ long, 5‴ broad: stalk 2‴ long: seeds subquadrate, compressed, 3‴ diam.—HAB. Bahamas!, *Swains.;* S. Vincent!, *Guild.;* [Cuba!].

60. LEBIDIBIA, *DC.*

Calyx-tube turbinate, persistent: limb 5-partite, nearly equal. *Petals* 5. *Stamens* 10. *Stigma* minutely capitate, concave, glabrous. *Legume* broadly oblong, laterally incurved, flatly compressed, slightly convex on the outer, concave on the inner side, many-seeded, wingless, sessile: seeds separated by cellular tissue.—A tree; leaves *bipinnate:* pinnæ *unpaired, abruptly pinnate;* flowers *white, in contracted, compound racemes:* branches *few-flowered:* pedicels *jointed at the base and at the top, destitute of bracts.*

143. **L. coriaria,** *Schlecht.—Jacq. Amer. Pict. t.* 260. *f.* 33. *Humb. Mimos. t.* 45.—Poinciana, *Jacq.* Cæsalpinia, *Humb.* 20′–30′ high, unarmed, glabrous, with the petioles puberulous or glabrescent; pinnæ 15–9: leaflets 24–16-jugal, oblong-linear, blunt, dotted with a series of black dots beneath; petals as long as the calyx, spathulate, 2‴ long; legume 2″–1½″ long, 9‴–10‴ broad, rounded at the top, 8–6-seeded.—HAB. Jamaica!, *Macf.;* Trinidad!, *Cr.;* [Haiti and Mexico! to Venezuela!].

61. PELTOPHORUM, *Vog.*

Calyx 5-partite: segments nearly equal or the inferior larger. *Petals* 5. *Stamens* 10, hirsute at the base, included. *Stigma* broadly peltate, glabrous. *Legume* oblong, flatly compressed, few- or 1-seeded, wingless, stipitate: valves connected by cellular tissue.—Unarmed trees; leaves *abruptly bipinnate;* racemes *usually paniculate.*

144. **P. Linnæi,** *Benth.!* *Pinnæ* 4-*jugal: leaflets* 6–8-*jugal*, semiovate-oblong or oval, bluntish, slightly puberulous or glabrescent, shortly petiolulate: petioles and racemes puberulous; pedicels short; "calyx-segments lacerate on the margin, the inferior larger, fimbriate;" legume 4–2-seeded, broadly oblong, blunt, acute at the shortly stipitate base.—Cæsalpinia brasiliensis, *L. e* Jamaica; *Sw.*, *Macf.!*—A low tree; wood orange-coloured; leaflets 18‴–8‴ long; "flowers small, yellow:" pedicels 3‴ long; legume 3″–2½″ long, 14‴–12‴ broad, glabrous: stalk 3‴ long: seeds roundish, compressed.—HAB. Jamaica!, *Macf.*, on dry, calcareous soil.

145. **P. adnatum,** *Gr.* (*n. sp.*). *Pinnæ* 6–7-*jugal: leaflets* 36–16-*jugal*, oblong-linear or linear, blunt, *broadly adnate at the base*, rusty-pubescent beneath: petioles, inflorescence, and calyx rusty-tomentose; panicle lax, corymbiform: pedicels long; calyx much exceeded by the corolla: segments nearly equal, entire; legume....—Pinnæ 6‴–8‴ distant from each other, opposite: leaflets opposite, shining-glabrous above, somewhat revolute on the margin, equilateral, spreading, adnate to the rhachis by their whole breadth, 3‴–2‴ long, 1‴–½‴ broad; panicle dichotomously divided into racemes at and above the base: pedicels 5–10 on each branch, spreading, 8‴ long; calyx imbricate, 3‴ long: tube minute, turbinate: segments obovate; petals broadly obovate, subentire, the largest 8‴ long, twice as long as the stamens; filaments densely rusty-pilose at the base, as long as the style: anthers ovate-oblong, incumbent, introrse; ovary rusty-villous, 4-ovulate: stigma abruptly enlarged, glabrous, ⅔‴ broad.—HAB. Bahamas!, *Swains.*

62. CASSIA, *L.*

Sepals 5, subdistinct, deciduous. *Petals* 5. *Stamens* 10 (–5): 3 superior often difform or abortive: anther-cells dehiscent by pores or incomplete clefts. *Legume* compressed or cylindrical, dry or filled with pulp, often many-celled, with spurious dissepiments. *Embryo* straight.—Leaves *abruptly pinnate:* leaflets *opposite;* flowers *mostly yellow.*

Sect. 1. FISTULA.—*Stamens* 10, *fertile: anthers ovate-oblong, bursting above with incomplete clefts (or at the base with pores). Legume cylindrical or nearly so, indehiscent, many-celled, mostly filled with pulp: seeds compressed, parallel to the dissepiments.*—Trees; flowers racemose, large.

146*. **C. Fistula,** *L.* *Leaflets* 4–8-*jugal*, ovate-oblong, bluntish (rarely acuminate), glabrescent: petiole eglandular; racemes lax, drooping; *pedicels* long, *ebracteate;* legume cylindrical, smooth, glabrous.—*Tuss. Fl.* 4. *t.* 2. *Desc. Fl.* 2. *t.* 125.—Leaflets 4″–5″, sepals 2‴–4‴, petals 8‴–12‴, legume 2′–1′ long.—HAB. Naturalized in Jamaica!, *Macf.*, *Dist.*, and in the Caribbean Islands!; [Mexico! to Brazil!; trop. Africa! to Egypt!; East Indies! to China!].

147*. **C. marginata,** *Roxb.* *Leaflets* 10–20-*jugal*, inequilateral, oval-oblong, blunt, puberulous, margined: petiole eglandular: stipules semi-sagittate; racemes axillary, exceeded by the leaves: *pedicels* long, *supported by subulate bracts;* petals reddish; "legume cylindrical, torulose, glabrous, pendulous."—C. Roxburghii, *DC.* C. javanica, *Lun.* (*non L.*).—Leaflets 2″, sepals 3‴, petals 10‴ long.—HAB. Naturalized in Jamaica!, *Wils.;* [introduced from the East Indies].

148. **C. grandis,** *L.* *Leaflets* 10–20-*jugal*, oblong, rounded at both ends, puberulous above, rusty-pubescent beneath: petiole eglandular; racemes axillary, drooping, rusty-pubescent: *pedicels ebracteate;* anthers hairy; legume compressed-cylindrical, transversely rugulose, glabrous.—C. brasiliana, *Lam.*—Leaflets 2″–1½″, sepals 3‴, petals 4‴–6‴, legume 3′–1½′ (–4″) long.—HAB. Jamaica!, *Oerst.;* [Cuba, Haiti!; Panama! to Guiana! and Ecuador!].

Sect. 2. CHAMÆFISTULA.—*Fertile stamens* 7: *anthers oblong, biporose at the summit. Legume cylindrical or nearly so, woody or coriaceous, many-celled, often filled with pulp: seeds compressed, parallel to the dissepiments.*—Woody plants.

149. **C. bacillaris,** *L.* Arborescent, glabrescent; *leaflets* 2-*jugal*, *semiovate*, pointed: petiole bearing a conical gland between the lower pair; racemes few-flowered, axillary or arranged in a lax corymb: pedicels long, spreading, ebracteate; *legume indehiscent*, subcompressed-cylindrical, apiculate, warty, glabrous: seeds horizontal.—Leaflets 5″–2″, sepals 4‴–5‴, petals 10‴, legume 8″–12″ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Sch.;* [S. Thomas!, Mexico! to Brazil!].

150. **C. viminea,** *L.* Shrubby, scandent, glabrescent; *leaflets* 2-*jugal*, *elliptical-oblong*, slightly inequilateral, pointed, shining above: petiole bearing a cylindrical gland between the lower or both pairs and a dorsal tubercle at the base: stipules falcate, setaceous, subpungent (or lanceolate); racemes axillary, corymbiform: bracts deciduous; *legume coriaceous, dehiscent along the suture,* subcylindrical, apiculate, torulose, transversely veiny, glabrous: seeds horizontal.—*Sl. t.* 180. *f.* 6, 7.—C. melanocarpa, *Bert.* C. undulata, *Benth.!:* a form with semilunar, lanceolate stipules.—A high climber; leaflets 3½″–2″, sepals 2‴–3‴, petals 6‴–8‴, legume 4″–6″ (–2″) long.—HAB. Jamaica!: all coll., in mountain woods; S. Vincent!, *Guild.;* Trinidad!, *Sch.*, *Lockh.;* [Panama! to Brazil!].

151. **C. bicapsularis,** *L.* Shrubby, trailing, glabrous; *leaflets* 3–4(–2)-*jugal*, *obovate* or oval-roundish, *rounded at the top:* petiole bearing an ovoid gland between the lowest pair; racemes few-flowered, axillary, as long as the leaves: pedicels short, bracteate; *legume coriaceous, dehiscent along the suture,* subcylindrical, blunt, glabrous, *with a longitudinal, incomplete dissepiment:* seeds horizontal.—*Jacq. Fragm. t.* 58.—Leaflets 16‴–10‴, sepals 4‴, petals 6‴, legume 8″–3″ long.—HAB. Bahamas!, *Swains.;* Jamaica!, *Wils.*, *March;* Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Mexico! to Peru!, Madeira!].

152. **C. lævigata,** *W.* Shrubby, glabrous; *leaflets* 4–3-*jugal*, *ovate-oblong* or ovate-lanceolate, *acuminate:* petiole bearing oblong-lanceolate glands between each pair; racemes axillary and terminal, the former exceeded by the leaves: pedicels as long as the flower: bracts deciduous; *legume coriaceous, dehiscent along the suture,* subcylindrical, blunt, transversely rugulose, glabrous.—*Collad. Caff. t.* 5.—Leaflets 3″–2″, sepals 4‴, petals 6‴–8‴, legume 3″–2″ long.—HAB. Jamaica!, *Al.*, in the dry bed of Falls River, Kingston; [Mexico to Brazil].

153. **C. tomentosa,** *L.* Shrubby, tomentose or pubescent; *leaflets* 8–4(–2)-*jugal*, *oblong* or lanceolate-oblong, rounded or bluntish at the top, *pubescent above, tomentose beneath:* petiole bearing glands between all or some pairs; racemes axillary, the terminal arranged in a corymb; petals large; *legume coriaceous, dehiscent,* subcylindrical, *tomentose, pubescent.*—Leaflets 18‴–9‴, sepals 6‴, petals 10‴–12‴ long.—HAB. Trinidad!, *Cr.;* [Venezuela! to Peru, Canary Islands! to the Cape!, East Indies].

Sect. 3. CHAMÆSENNA. *Stamens of* Chamæfistula. *Legume flat-compressed, bivalved: seeds compressed, parallel to the valves, with their longer diameter transverse to them.*—Woody plants.

† *Petioles devoid of vascular glands.*

154. **C. emarginata,** *L.* Arborescent, *pubescent; leaflets* 5–3(–2)-*jugal*, *oval-ob-*

long, rounded or emarginate on the top: petiole eglandular: stipules setaceous; *corymbs axillary,* peduncled, exceeded by the leaves; *legume coriaceous,* linear, *straight, glabrous,* tumid on the margins, mucronate, subsessile.—*Sl. t.* 180. *f.* 1–4.—C. chrysophylla, *Rich.*—10′–15′ high; leaflets 2″–1″, sepals 2‴–3‴, petals 5‴–6‴, legume 5″–3″ long.—HAB. Jamaica!, *Macf.*, *Pd.*, common in dry savannahs; S. Vincent!, *Guild.;* [Haiti].

155*. **C. florida,** *V.* Arboreous; *leaflets* 6–5 (" 14–4")-*jugal, oval-oblong, rounded or emarginate at the top, glabrous:* petiole eglandular; *corymbs* puberulous, arranged *in a large panicle:* bracts lanceolate, persistent; *legume coriaceous, puberulous,* linear, slightly arcuate, at length straight and drooping, tumid on the margins, acuminate, shortly stipitate.—C. gigantea, *Berter.* C. arborea, *Macf.*—30′–50′ high; leaflets 2″–1″, sepals 3‴–4‴, petals 6‴–8‴, legume 8″–4″ long.—HAB. Naturalized in Jamaica!, *Wils., March;* [introduced from the East Indies].

156. **C. spectabilis,** *DC.* Arboreous; *leaflets* 10–12-*jugal, oblong-lanceolate, shortly acuminate, hispidulous beneath:* petiole eglandular; *corymbs* puberulous; arranged *in a large,* oblong, spreading *panicle:* bracts minute, ovate, deciduous; ovary glabrous; legume . . . .—*Collad. Cass. t.* 7.—C. trinitatis, *Rchb. ex diag.*—30′ high; leaflets $2\frac{1}{2}$″–$1\frac{1}{2}$″, sepals 3‴–4‴, petals 8‴–10‴ long.—HAB. Jamaica!, *March;* Trinidad! (*Sieb.*); [Guiana!, Venezuela, Pará!],

†† *Petiolar glands between the leaflets.*

157. **C. glauca,** *Lam.* Arboreous or shrubby; *leaflets* 6–4-*jugal, oval-oblong* or oval, with a bluntish point, *glacuous* and puberulous or glabrescent beneath: petiole bearing ovoid glands between each of the lower pairs: stipules falcate, linear; racemes axillary, corymbiform, peduncled: pedicels bracteate; flowers large; *legume membranaceous,* oblong-linear, *straight, glabrous,* transversely impressed along the dissepiments, abruptly stipitate: seeds oblong.—*Plum. Ed. Burm. t.* 77.—C. Plumieri, *DC.* C. planisiliqua, *Lam.* C. arborescens, *V.* C. sulfurea, *DC.* C. discolor, *Desv. ?*—Leaflets 3″–1″, sepals 3‴–4‴, petals 12‴–15‴, legume 5″, its stalk 1″–$1\frac{1}{2}$″ long.—HAB. Jamaica!, *Dist., March;* S. Kitts!, Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* [Guadeloupe!, East Indies!].

158. **C. biflora,** *L.* Shrubby, puberulous or glabrescent; *leaflets* 8–4(–10)-*jugal, obovate-oblong* or oblong, mucronulate–blunt: petiole bearing a cylindrical gland between the lowest pair; *peduncles* 2–4(–6)-*flowered; legume membranaceous,* oblong-linear or linear, *slightly arcuate, somewhat hairy,* blunt, rounded at the stipitate base.—C. fulgens, *Macf.* C. longisiliqua, *L. fil. ?*—Leaflets 8‴–4‴, sepals 2‴–3‴, petals 6‴–8‴, legume 3″–$1\frac{1}{2}$″ long.

α. Legume 4‴–3‴ broad.

β. angustisiliqua, Lam. Legume linear, 2‴ broad.—C. obcordata, *Sw.!:* a form with emarginate leaflets.

HAB. Jamaica!, *Macf.*, common, Trinidad! *Lockh.* (*β*); [Florida!, Haiti!, S. Barthélemy! (*β*); Mexico! to Panama! and Venezuela].

159. **C. multijuga,** *Rich.* Arboreous, glabrescent; *leaflets* 24–10(–30)-*jugal, oblong,* mucronulate–blunt, glaucescent beneath: petiole bearing a cylindrical gland between the lowest pair; racemes arranged in a terminal corymbiform panicle; *legume membranaceous,* broadly oblong-linear, *straight, glabrous,* slightly impressed with transverse lines, rounded at the stipitate base: seeds oblong.—C. calliantha, *Mey.!* C. Selloi, *Don.* C. magnifica, *Mart.!* C. ampliflora, *Steud.!* C. fulgens, *Wall.!*—Leaflets 12‴–6‴, sepals 3‴–4‴, petals 8‴–12‴, legume 4″ long, the latter 10‴ broad.—HAB. S. Vincent!, *Guild.;* [Guiana! to Tucuman!].

††† *Petiolar glands above the base of the petiole.*

160. **C. ligustrina,** *L.* Shrubby, glabrescent; *leaflets* 5–8-*jugal, lanceolate* or oblong-lanceolate, *acuminate,* unequal-sided, usually ciliate: *petiole bearing an oblong gland above its base;* racemes arranged in a terminal corymb; *legume membranaceous,* linear, *slightly arcuate, glabrous,* subsessile.—*Desc. Fl.* 2. *t.* 134.—C. bahamensis, *Mill.*—Leaflets $2\frac{1}{2}$″–1″, sepals 3‴–4‴, petals 6‴–8‴, legume 6″–4″ long.—HAB. Bahamas (*Dill.*); Jamaica!, *March;* [Cuba! to Guiana].

Sect. 4. HERPETICA. *Stamens of* Chamæfistula (*or some more abortive*). *Legume tetragonal by longitudinal wings along the middle of the valves, dehiscent, many-celled: seeds compressed, parallel to the dissepiments.*—A shrub.

161. **C. alata,** *L.* *Leaflets* 6–14-*jugal*, large, *oblong*, subtruncate at the subsessile base, rounded or retuse at the top, glabrescent: *the lowest pair close to the node*, and distant from the next pair: petiole 3-angular, devoid of vascular glands; raceme long, terminal: bracts large, deciduous; petals lacerate on the margin; legume black, mucronate: *marginal edges entire, wings crenulate.*—*Sl. t.* 175. *f.* 2. *Desc. Fl.* 6. *t.* 443.—6′–10′ high; leaflets 5″–2″ long, the superior pairs decrescent; legume 5″ long.—HAB. Jamaica!, *Wullschl.*, along river-banks; [Cuba, S. Thomas!, Guadeloupe!, Nicaragua! to Brazil; East Indies; Pacific Islands].

Sect. 5. ONCOLOBIUM. *Stamens of* Chamæfistula. *Legume membranaceous, compressed, at length biconvex or subcylindrical, bivalved, many-celled, devoid of pulp: seeds compressed, at length parallel to the dissepiments.*—Shrubs or herbs.

162. **C. hirsuta,** *L.* Suffrutescent or shrubby, pubescent; branches obtuse-angled; leaflets 4–6-jugal, elliptical or elliptical-oblong, acuminate: *petiole bearing a cylindrical gland above its base;* racemes short, few-flowered; *legume linear, pubescent,* not torulose, *at length subcompressed-biconvex.*—*Jacq. H. Schœnbr. t.* 270.—C. caracasana, *Jacq.* C. venenifera, *Rodsch.!*—Leaflets 2½″–1″, sepals 3‴–4‴, petals 6‴–8‴, legume 5″ long, the latter arcuate or straightish.—HAB. Caribbean Islands!; [Mexico! to Brazil!].

163. **C. occidentalis,** *L.* Annual or suffrutescent, glabrescent (or puberulous); leaflets 4–8(–12)-jugal, ovate-lanceolate or lanceolate, acuminate: *petiole bearing an ovoid gland near its base;* racemes short, few-flowered: pedicels bracteate; *legume glabrous*, oblong-linear, margined, compressed, *at length biconvex-subcylindrical.*—*Sl. t.* 175. *f.* 3. 4. *Desc. Fl.* 2. *t.* 135.—Leaflets 2″–1″, sepals 2‴–3‴, petals 6‴, legume 4″–2″ long. Corolla yellow, but whitish in drying.—HAB. Jamaica!, all coll., to Trinidad!: a weed; [Louisiana! to Buenos Ayres; Egypt! to Sudan!; Madagascar!, Arabia!, East Indies!, trop. Australia!, Sandwich Islands!, Galapagos!].

Sect. 6. PROSOSPERMA. *Stamens of* Chamæfistula. *Legume compressed-tetragonal, linear: seeds compressed, parallel to the valves, their longer diameter likewise parallel to the valves.*—Mostly annual herbs.

164. **C. obtusifolia,** *L.* Annual, suffrutescent, *glabrescent; leaflets* 3–2-*jugal, obovate*, mucronulate-blunt, cuneate at the base: petiole bearing cylindrical glands between the lowest or two lower pairs: stipules long, linear-setaceous, deciduous; peduncles few-flowered; *legume* chartaceous, glabrous, *smooth*, compressed-tetragonal, acuminate: margins grooved.—*Sl. t.* 180. *f.* 5.—C. Tora, *L.*—1′–2′ high; leaflets 12‴–6‴, sepals 2‴–3‴, petals 6‴, legume 5″–3″ long, the latter arcuate or straightish.—HAB. Jamaica!, all coll., to Trinidad!: a common weed; [Ohio! to Brazil!; tropical Africa! and Asia! to China!; Galapagos!].

165. **C. sericea,** *Sw.* Annual, suffrutescent, *rusty-hirsute* with accumbent bristles above, along the petioles and the margin of leaflets; *leaflets* 4–2-*jugal, obovate*, mucronulate-blunt, rounded at the base, subhirsute beneath: petiole bearing subulate, stipitate glands between most pairs: stipules long, linear-setaceous; peduncles short, axillary, few-flowered; *legume* chartaceous, rusty-hirsute or glabrescent, biconvex-subtetragonal, *deeply impressed transversely along the dissepiments:* margins filiform, entire.—6″–3′ high; leaflets 18‴–8‴ long; legume slightly arcuate, 2″–1″ long: seeds oblong, truncate.—HAB. Jamaica!, *Macf.*, *Dist.*, in pastures; [Cuba!, Panama!, Brazil!].

Sect. 7. SENNA.—*Stamens of* Chamæfistula. *Legume flat-compressed, protuberant at the seeds, indehiscent: seeds obcordate, shorter than their podosperm, compressed, parallel to the valves, and their longer diameter transverse to the valves.*

166*. **C. obovata,** *Collad.* Suffrutescent, glabrous; leaflets 4–7-jugal, obovate: petiole eglandular: stipules lanceolate, acuminate, persistent; racemes axillary, few-flowered: pedicels ebracteate; *legume arcuate, broadly-oblong, crested at the seeds*, glabrous.—*Collad. Cass. t.* 15 *a.* *Desc. Fl.* 2. *t.* 113.—C. Senna, *Sw.*—Leaflets 8‴–12‴ long; legume 1½″ long, 8‴ broad.—HAB. Naturalized in Jamaica!, *Wright*, near Port Royal; [introduced from trop. Africa!].

Sect. 8. CHAMÆCRISTA.—*Stamens* 5–10, *all fertile; anthers linear, bursting at the top with two short clefts, puberulous along a closed furrow below them. Legume flat-compressed, bivalved: seeds compressed, parallel to the valves: podosperm deltoid.*—Pedicels minutely bibracteolate.

† *Inflorescence terminal.*

167. **C. Absus,** *L.* Annual, suffrutescent; *stem glandular-pilose;* leaflets bijugal, distant from the node, obovate, glabrescent: petiole bearing a minute gland between the pairs: stipules lanceolate-setaceous; *racemes terminal,* few-flowered (with accessory axillary flowers); legume pilose, impressed with oblique lines at the dissepiments.—*Jacq. Eclog. t.* 53.—C. viscosa, *Macf.!*—Leaflets 12'''–8''', sepals 2''', legume 1'' long.—HAB. Jamaica!, *Macf.;* [trop. Africa! and Asia!; Egypt!].

†† *Peduncles supra-axillary.*

168. **C. diphylla,** *L.* Annual, suffrutescent, *glabrous; leaflets* 1-*jugal,* obliquely semiorbicular or semiobovate, *flabellate-nerved* with excurrent veins: stipules cordate-subulate, exceeding the glandular petiole; peduncles single, 1-flowered, exceeding the leaves; *sepals* striate with many nerves, *scarious;* legume hairy with long, scattered, appressed down: seeds oblong, oblique to the margins.—*Cav. Ic. t.* 600. *f.* 1.—Leaflets 10'''–6''', sepals 3''', legume 1½''–1'' long.—HAB. S. Kitts!, S. Vincent!, *Anders.;* [Portorico; Mexico! to Brazil!].

169. **C. rotundifolia,** *Pers.* Annual, suffrutescent, *hairy; leaflets* 1-*jugal,* semioval, or obliquely semiorbicular, *reticulated-veiny:* stipules obliquely cordate-subulate, longer than or as long as the eglandular petiole; peduncles single, 1-flowered, exceeding the leaves; *sepals foliaceous;* legume puberulous with short hairs.—*Collad. Cass. t.* 9 *B.*—C. bifoliolata, *DC.*—Habit of the preceding; leaflets 9'''–4''', sepals 2''', legume 12'''–8''' long.—HAB. Jamaica!, *M'Nab;* [Mexico! to Brazil!].

170. **C. pilosa,** *L.* *Stem* suffrutescent, *pilose; leaflets* 5–3-*jugal,* oblong, mucronate, oblique at the base, glabrescent, ciliate: *petiole eglandular:* stipules semisubulate; *peduncles* 1–3, one-flowered, *nearly as long as the leaves;* legume pubescent.—*Collad. Cass. t.* 20 *A.*—Leaflets 8'''–4''', legume 18'''–10''' long.—Hab. Jamaica!, *Dist., M'Nab, Wullschl.,* in canefields; [New Granada].

171. **C. serpens,** *L.* Perennial; stems delicate, herbaceous or suffrutescent, pubescent; *leaflets* 4–9-*jugal,* unequal-sided, oblong-linear or obovate-linear, mucronulate, glabrescent, veiny beneath: *petiole bearing a stipitate gland below the pairs:* stipules semisubulate; *peduncles* single, one-flowered, *nearly as long as the leaves;* legume pilose with scattered hairs.—C. prostrata, *Kth.* C. pygmæa, *DC., Macf.!* C. diffusa, *Salzm.!*—The petiolar gland is usually long-stipitate, but variable in the length of its stalk. Leaflets 3'''–1½''', petals 4'''–5''', legume 12'''–8''' long.—HAB. Jamaica!, *Macf.,* in pastures; [Cuba! and Mexico! to Brazil!].

172. **C. lineata,** *Sw.!* Shrubby or suffrutescent, perennial, *pubescent with small, curved hairs; leaflets* 6–2-*jugal,* unequal-sided, obovate-oblong, rounded or subtruncate at the top, mucronate, penninerved with excurrent veins: *petiole bearing a sessile, depressed gland below the pairs and close to them:* stipules acuminate from a lanceolate base; *peduncles* single, one-flowered, *nearly as long as the leaves;* stamens 10; legume pubescent with scattered, curved down.—C. cuneata, *DC., Rich. Cub.*—8''–3' high, covered entirely with down in the original specimen, only at length glabrescent on the upper side of the leaflets; leaves often black in drying: leaflets 5'''–3''', petals 6''', legume 3''–1'' long.—HAB. Jamaica!, *Sw., Pd.:* [Cuba!].

173. **C. polyadena,** *DC.* Shrubby: branches slightly puberulous; *leaflets* 8–4-*jugal, glabrous, obovate-oblong,* oblong, or oval, oblique at the rounded base, *mucronulate-obtuse* or retuse-truncate at the top, penninerved, striate with veins: *petiole bearing glands below each pair:* stipules acuminate from a lanceolate base; *peduncles* 1–2, one-flowered, *exceeded by the leaves;* stamens 10; legume bearing scattered, curved hairs.—Variable in the petiolar glands either subsessile or long-stipitate, and in the size of the stipules; leaflets 12'''–4''' long, 4'''–2''' broad; petals 6''', legume 1½''–1'' long.—HAB. Jamaica!, *Pd., March, e.g.* in the Pedro plains, S. Elizabeth; [S. Barthélemi, Guadeloupe!].

174. **C. glandulosa,** *L., Vog.!* Shrubby or suffrutescent; *leaflets* 10–18(–5)-*jugal, oblong-linear,* mucronulate, slightly oblique at the base, penninerved, striate with veins: *petiole bearing a stipitate gland below the lowest pair* (and sometimes several below the upper pairs): *stipules short, not attaining the petiolar gland,* subulate; *peduncles* 1–3, one-flowered, as long as (or twice as long as) the flower, *much exceeded by the leaves;* stamens 10: filaments very short; legume bearing scattered, curved hairs.—C. Chamæcrista Caribæa, *L., Rich. Cub.*—Often (and by Linnæus himself) confounded with other species, but distinguished from the North American *C. Chamæcrista,* L., by smaller (1‴ diam.), quadrate seeds, the small stipules, and a perennial, at length shrubby stem: it begins flowering however in the first year, and appears then like an annual plant. The variability of *C. glandulosa* is extreme, and affects chiefly the ramification, the down, and the number and size of the leaflets. 5′–6′ (–2′) high; leaflets 3‴–10‴, petals 5‴–6‴, legume 1″–2″ long.

α. stricta, Schrk. Virgate, simple below, glabrescent: petiolar glands solitary (or a few), shortly stipitate.—*Schrk. H. Monac. t.* 24. *Bot. Mag. t.* 3435.—This is the common West Indian form, but Linnæus's description agrees better with *β,* and Breynius's figure, quoted by him, is to be excluded.

β. ramosa. Diffuse; branches, petioles, and often the leaflets hairy; petiolar glands long-stipitate, often serial up to the upper part of the common petiole.—C. virgata, *Sw.!* C. Swartzii, *Wickstr.!*: a form with subsessile, solitary petiolar glands.—Leaflets small, often pointed, 3‴–4‴ long, 10–14-jugal.

Hab. Jamaica!, all coll., common in the hills up to 4000′ alt. (*α, β*); *α* in all Caribbean Islands! and Trinidad; [Cuba to Brazil!].

175. **C. nicticans,** *L.* Annual, herbaceous or suffrutescent, pubescent with curved hairs, or glabrescent; *leaflets* 12–25(–5)-*jugal, oblong-linear,* mucronulate, slightly oblique at the base, penninerved, striate with veins: *petiole bearing a stipitate gland below the lowest pair: stipules exceeding the insertion-point of the gland,* acuminate from a lanceolate oblique base: *peduncles* 1(–3)-flowered, *much exceeded by the leaves; stamens* 5–7 (–10); legume bearing scattered, curved hairs.—*Schrk. H. Monac. t.* 33. *Collad. Cass. t.* 17. —C. Chamæcrista, *Sw. Obs., Schrk.* C. Æschynomene, *DC., Vog.!* C. smaragdina, *Macf.!*—Leaflets 5‴–2‴, petals (nearly included) 3‴–4‴ long; variable in the petiolar glands long-stipitate or subsessile, the pedicels 2‴–8‴ long, and the number of the stamens.—Hab. Jamaica!, *March*: a weed in the hills; [Massachusetts to Texas!; S. Thomas!, Guadeloupe!].

176. **C. patellaria,** *DC.* Annual, suffrutescent, *villous-pubescent; leaflets* 10–25-*jugal, oblong-linear,* mucronulate, oblique at the base, penninerved, striate with veins: *petiole bearing a sessile, scutellate gland below the lowest pair: stipules exceeding the insertion-point of the gland,* subulate; *peduncles* usually distant from the axil, 1–3, *very short,* 1(–3)-flowered; *stamens* 7–8; legume villous with scattered hairs.—*Breyn. Cent. t.* 24. *Collad. Cass. t.* 16.—1′–2′ high, virgate; leaflets 5‴–3‴, peduncles 2‴–4‴, petals (included) 2‴–3‴, legume ½″–1½″ long.—Hab. Jamaica!, *Wils.,* uncommon; Trinidad!, *Lockh.;* [Cuba! and Mexico! to Uruguay! and Peru!].

177. **C. prætexta,** *Vog.* Suffrutescent, virgate, glabrescent; *leaflets* 20–30-*jugal,* oblong-linear, mucronulate-blunt, unequal-sided, penninerved with distant veins, *glabrous:* petiole bearing a sessile, turbinate-cylindrical gland below the lowest pair: stipules subulate; *peduncles* distant from the axil, *very short; legume* glabrescent, *margined* with a narrow wing on both edges.—3′ high, at length shining-glabrous; leaflets 6‴–4‴, peduncles 3‴–4‴, legume 2″ long.—Hab. Trinidad!, *Cr.;* [Guiana].

The Asiatic *C. mimosoides,* L., mentioned by Vogel as West Indian, does not occur in our collections: several *Cassiæ,* described by older authors, remain as doubtful as they ever have been.

63. SWARTZIA, *Schreb.*

Calyx closed, bursting into valves. *Petals* 1 (–2), or none. *Stamens* ∞, hypogynous, several longer. *Ovary* stipitate, several-ovulate. *Legume* follicular. *Radicle* inflexed.—Trees; leaves *impari-pinnate or* 1-*foliolate.*

178. **S. grandiflora,** *W. Leaflets single* (–"3"), elliptical-oblong, with a bluntish point,

coriaceous, glabrous, undulate: petiole short, subcylindrical: stipules setaceous, persistent; corymbs 3–5-flowered; calyx irregularly bursting; *petal* 1, *cordate-orbicular*, glabrous, *thrice as long as the calyx;* ovary glabrous: *style filiform*, incurved.—*Vahl, Eclog.* 1. *t.* 9. *DC. Lég. t.* 58.—Rittera, *V.* R. simplex, *V.* Possira, *Sw.* S. simplicifolia, *W.*, *quoad synon.* S. ochnacea, *DC.*—Leaflets 5″–3″ long; petal yellow, 12‴–14‴ diam., either broadly rounded or with a bluntly triangular summit; "legume 2″ long, oblong, tapering, 1–2-seeded: aril multipartite."—HAB. Jamaica!, *March*; Dominica!, *Imr.*; S. Vincent!, *Anders.*; Trinidad!, *Pd.*, *Sch.*, *Cr.*; [Acapulco!, Panama! to Brazil].

179. **S. pinnata,** *W.* *Leaflets* 5, large, elliptical-oblong, pointed, glabrous: petiole cylindrical; racemes elongated, tomentose-pubescent: pedicels fascicled, longer than the irregularly bursting calyx; *petal* 1, *roundish*, glabrous, *half as long again as the calyx;* ovary sericeous: *style uncinate-inflexed.*—*Ann. Mus.* 9. *t.* 24. *f.* 2: the legume.—Leaflets 12″–6″ long; calyx globose, 3‴ diam., tomentose; "legume 6″ long, contracted between the seeds, 5–2-seeded: aril orbicular."—HAB. Trinidad!, *Sieb. Trin.* 93; [Guiana].

180. **S. caribæa,** *Gr.* (*n. sp.*). *Leaflets* 5–3 (–1) lanceolate-oblong, pointleted with a bluntish point, coriaceous, glabrous or glabrescent beneath, undulate: petiole striate-cylindrical; racemes elongated, puberulous: pedicels fascicled, nearly as long as the 4–3-valved calyx; *petals none;* ovary sericeous: *style* short, *uncinate-inflexed.*—It resembles *Sw. apetala*, Radd. (Salzm. Bah.!); but Raddi states the ovary of his species to be glabrous.—Leaflets opposite, shining, reticulated-veiny both sides, tapering and shortly petiolulate at the base, 4″–3″ long, 1½″–1″ broad: stipules deciduous; racemes peduncled, nodding: fascicles 3–1-flowered: pedicels 3‴–4‴ long; calyx glabrescent, ovoid-globose; ovary semi-ovoid, 2‴–3‴ long, as long as the inflexed stalk: style ½‴ long; legume hard, follicular, elliptical-oblong, pointed at both ends, 2–1-seeded, 2″ long, 10‴ broad: style excrescent, deciduous: carpophore 6‴–8‴ long; seeds ovoid, black, 6‴ long: aril pale, two-thirds as long, lacerate.—HAB. Dominica!, *Imr.*; S. Lucia!, *Anders.*

64. BROWNEA, *Jacq.*

Calyx 4–5-fid, coloured, included within a bracteolar, usually bifid sheath. *Petals* 5, equal. *Stamens* 11–10 (–15), inserted into the summit of the calyx-tube, usually monadelphous. *Ovary* stipitate: gynophore adnate to the calyx-tube. *Legume* "compressed, many-seeded."—Woody plants; leaves *abruptly pinnate*; flowers *large, usually crimson, in clusters:* exterior bracts *large, caducous.*

181. **B. Rosa,** *Berg.* Leaflets 2–4-jugal, elliptical-oblong, cuspidate, rounded at the base; flowers fascicled; *sheath* villous, *as long as the calyx-tube;* calyx-lobes half as long as the tube and as the petals; *stamens* 11, *shortly exserted*, monadelphous.—*Philos. Trans.* 1773, *t.* 8, 9.—B. coccinea, *Lœfl.* (*non Jacq.*).—A low tree; leaflets 6″–3″, flowers 3″, pedicels 3‴ long; stamens 4‴ longer than the petals.—HAB. S. Vincent!, *Guild.*; [Venezuela].

182. **B. latifolia,** *Jacq.* Leaflets 6–2(–1)-jugal, elliptical or elliptical-oblong, cuspidate, rounded or subcordate at the base, polished; flowers fascicled; *sheath* villous, *as long as the calyx-tube;* calyx-lobes half as long as the tube and as the mucronate petals; *stamens* 11, *subincluded*, monadelphous.—*Jacq. Fragm. t.* 17.—B. Rosa *of Hort. Kew.*—Perhaps not sufficiently distinct from *B. Rosa*, but the leaflets usually broader and more numerous, and the flowers shorter.—Leaflets 4″–2″, flowers 2″, pedicels 3‴ long; stamens equalling the petals, or 1‴–2‴ longer.—HAB. Trinidad!, *Sch.*, *Pd.*, along S. Ann's river; [Venezuela].

183. **B. speciosa,** *Rchb.* Leaflets 4–3-jugal, lanceolate-oblong or elliptical-oblong, cuspidate, subacute at the base; flowers fascicled; *sheath* villous, *exceeding the calyx-tube;* calyx-lobes 3–4 times shorter than the tube, and the petals; *stamens* 10, *nearly twice as long as the petals*, monadelphous.—*Lam. Ill. t.* 575. *f.* 3.—B. Rosa, *Lam.*—Leaflets 4″–2″, flowers 2″, pedicels 3‴ long; longest stamens 10‴ longer than the petals.—HAB. S. Vincent!, *Guild.*; Trinidad (*Rchb.*).

65*. TAMARINDUS, *L.*

Calyx 4-partite, bilabiate. *Petals* 3: 1 superior, 2 inferior abortive. *Stamens* 3 (–2) fertile, monadelphous, the rest abortive. *Ovary* stipitate: gynophore adnate to the calyx-

tube. *Legume* pulpy, indehiscent.—A tree; leaves *abruptly pinnate;* flowers *racemose, variegated.*

184*. **T. indica,** *L.—Jacq. Amer. Pict. t.* 13.—T. occidentalis, *G.:* the West-Indian form, with the legume 4-1-seeded.—A high tree; leaflets oblong, retuse or rounded at the top, deciduous, 18-10-jugal.—Hab. Naturalized in all the West Indian islands!, all. coll.; [introduced from the East Indies, and cultivated in all tropical countries].

66. HYMENÆA, *L.*

Calyx-tube lignescent, bracteolate: limb 4-5-partite, deciduous. *Petals* 5, inserted with the stamens into the summit of the calyx-tube. *Stamens* 10. *Legume* woody, indehiscent.—Resinous trees; leaves *bifoliolate;* flowers *corymbose.*

185. **H. Courbaril,** *L.* Leaflets leathery, polished, unequal-sided, obliquely oblong-lanceolate; flowers pedicellate, white; ovary stipitate; legume few-seeded, rough with minute warts.—*Desc. Fl.* 5. *t.* 359.—A high tree; petals nearly equal, as long as the calyx-segments; legume filled with mealy pulp.—Hab. Jamaica!, *Pd.;* Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Lucia!, *Anders.;* [Cuba; Panama! to Guiana!].

67. CASPAREA, *Kth.*

Calyx-tube cylindrical: limb ligulate-spathaceous, 5-dentate. *Petals* 5, inserted with the stamens into the summit of the calyx-tube. *Stamens* diadelphous, 1 distinct, fertile, 9 connected, reduced, sterile. *Ovary* stipitate: gynophore free from the calyx: stigma capitate. *Legume* compressed, bivalved.—Woody plants; leaflets 2, *usually united by their inner margins into a bilobed leaf;* flowers *in terminal racemes.*

186. **C. porrecta,** *Kth.* Shrubby; *leaves* cordate-roundish or ovate, 9-7-nerved, *bilobed to one-half or one-third* (rarely entire), puberulous on the nerves beneath: *lobes deltoid, with a bluntish point,* parallel; petals lanceolate, half as long as the fertile stamen and the pistil.—*Jacq. H. Schœnbr. t.* 100.—Bauhinia, *Sw.*—6′-15′ high; leaves variable, glaucescent beneath, 4″-1″ diam.; petals variegated with rosy or white, 8‴ long; legume flat-compressed, 6″-2″ long, 10-1-seeded.—Hab. Jamaica!, all. coll., common in the lower hills; [Haiti].

187. **C. aurita,** *Gr.* Shrubby; *leaves* subcordate-oblong, 9-7-nerved, *bilobed to two-thirds,* puberulous on the nerves beneath: *lobes oblong-lanceolate, acuminate* with a bluntish point, parallel; petals lanceolate, more than twice shorter than the fertile stamen and the pistil.—*Mill. Ic. t.* 61.—Bauhinia, *Ait.*—10′-20′ high; leaves 2″-1″ long; petals white, 6‴ long; legume 2″-1″ long, 4-1-seeded.—Hab. Jamaica (*Mill.*); [Haiti!].

68. BAUHINIA, *L., Vog.*

Calyx-tube cylindrical: limb ligulate-spathaceous, rarely 5-partite. *Petals* 5, inserted with the stamens into the summit of the calyx-tube. *Stamens* 10, monadelphous at the base, or distinct, all fertile or partly sterile. *Ovary* stipitate: gynophore free from the calyx: stigma infundibular-lamellate or conical. *Legume* bivalved or indehiscent.—Woody plants; leaflets of *Casparea;* racemes *or single flowers opposite to the leaves.*

The small-flowered *Bauhiniæ*, with a minute conical stigma, short anthers, and the calyx-limb usually 5-dentate in the bud, form a distinct Section, to which the name of *Paulletia* may remain: of these *B. microphylla,* Vog., grows in Cuba, and a new species is cultivated in Jamaica.

188. **B. megalandra,** *Gr.* (*n. sp.*). Unarmed; branches glabrescent; *leaves* subcordate-roundish, bilobed to one-third, 9-nerved, *glabrous,* with the nerves glabrescent beneath: lobes broadly ovate, rounded-blunt, parallel; flowers solitary, or the uppermost racemose; *calyx* long, externally rusty-tomentose, spathaceous, with the cohering summit entire: *limb* nearly *as long as the linear glabrous petals* and as the distinct stamens; anthers 10, elongated-linear; stigma infundibular-lamellate, ovate-oblong, unilateral.—Allied to *B. multinervia,* Kth., which is said to have 11-nerved leaves, still larger flowers, and a bilamellate stigma.—A tree; leaves 5″-3½″ diam.: petiole 1″-6‴ long: flowers 3″-4″ long, mostly opposite to the leaves: pedicels thickish, 4‴-6‴ long: calyx oblong-cylindrical, slightly curved, 6‴ diam.

above: tube 1″ long: limb either entire, elliptical-oblong, or bursting into 5 segments below the cohering summit; petals and stamens 2″–3″ long; anthers affixed above their base, recurved, 6‴–8‴ long; ovary oblong-cylindrical, rusty-tomentose, tapering into the exserted gynophore, and into the style, 1½″ long: stigma 2½‴ long, 1½‴ broad.—HAB. S. Kitts!, Antigua!, *Wullschl.*; S. Vincent!, *Guild.*; Trinidad!, *Cr.*, where its branches are used as wood hoops; [Cuba (*Benth.*)].

189. **B. Bredemeyeri,** *Vog.* Armed with minute stipular spines; branchlets tomentose; *leaves* subquadrate-oblong or roundish, bilobed to one-third or one-fourth, rounded at the base, 7-nerved, pubescent above, *velvety beneath: lobes ovate, blunt, divergent;* flowers geminate or solitary; calyx externally pubescent, spathaceous, with the cohering summit entire; *petals elliptical,* with a bluntish point, tapering into the claw, glabrous, *twice as long as the calyx-limb;* stamens connected very shortly at the base, all fertile: anthers linear, recurved; stigma infundibular-lamellate, ovate, blunt, unilateral.—Leaves 3½″–1″ long, 2″–1″ broad; calyx-tube 6‴, limb 1″, petals 2″, anthers 3″, stigma 1‴ long.—HAB. Trinidad!, *Sch.*; [Venezuela!].

190. **B. ungula,** *Jacq.* Armed with stipular spines; branchlets puberulous; *leaves* roundish-subquadrate, bilobed to one-third or one half, subcordate at the base, 11–9-nerved, *puberulous beneath: lobes ovate-deltoid, with a bluntish point, divergent;* flowers geminate or solitary; calyx externally puberulous, spathaceous with the cohering summit entire; *petals spathulate-oblong,* retuse, tapering into the short claw, glabrous, *twice as long as the calyx-limb;* stamens all fertile, 9 connected at the base; anthers linear, recurved; stigma infundibular-lamellate, unequally bilobed, blunt.—*Jacq. Amer. Pict. t.* 260. *f.* 31; *Fragm. t.* 15. *f.* 1; *Desc. Fl.* 2. *t.* 128.—B. aculeata, *Jacq.* (*non L. ex Plum.*). B. pubescens, *DC.* B. acuminata, *Desc.* (*non L.*).—A shrub; leaves 1½″–1″ diam.; flowers white; calyx-tube 4‴, limb 9‴–12‴, petals 1½″–2″, anthers 2‴, larger stigma-lip ½‴ long.—HAB. Jamaica!, *March*; [S. Thomas!; Venezuela, New Granada].

191*. **B. variegata,** *L.* Armed with weak spinescent stipules; branchlets puberulous; *leaves* roundish, bilobed to one-third, truncate at the base, 9-nerved, *puberulous beneath: lobes broadly ovate, rounded-blunt, parallel;* peduncles bifid, 2-flowered: bracteoles lanceolate-linear, persistent; calyx externally puberulous, spathaceous or entire, minutely denticulate at the summit; *petals broadly obovate,* rounded at the top, *subsessile,* glabrous, *thrice as long as the calyx-limb;* stamens 5–7 fertile, subdistinct at the ciliate base, included: anthers oblong-linear, recurved; stigma infundibular-lamellate, unequally bilobed: larger lip reniform.—*Rheed. Mal.* 1. *t.* 32.—A shrub; leaves 2″ diam.; flowers rosy-white: one petal with a purple blotch at the base; calyx-tube 2‴, limb 6‴–8‴ long; petals 1½″–2″ long, 15‴–18‴ broad; anthers 1½″ long; legume flat-compressed, membranaceous, glabrescent, 5″–3″ long, 6‴ broad: gynophore very short.—HAB. Naturalized in Jamaica!, *March,* common; [introduced from the East Indies].

69. SCHNELLA, *Radd.*

Calyx-tube campanulate: limb bilabiate to 5-fid. *Petals* 5, inserted with the stamens near the base of the calyx-tube. *Stamens* 10, distinct, all fertile. *Ovary* sessile: stigma capitate, usually oblique. *Legume* bivalved or tardily dehiscent, flat-compressed.—Cirrhiferous vines, *rarely erect woody plants;* leaflets 2, *distinct or united, palmatinerved;* flowers *in terminal racemes.*

192. **S. splendens,** *Benth.!* Scandent; *leaflets distinct,* semiovate, acuminate or pointleted, subsemicordate at the base, parallel, 3–4-nerved, shining-glabrous above, *aurate* with a silky (or evanescent) down *beneath;* calyx-lobes blunt; *petals* externally *villous,* unequal, the larger obovate, twice as long as the calyx.—*Aubl. t.* 144.—Bauhinia, *Kth.* B. Outimouton, *Aubl.* B. macrophylla, *Poir. and Pl. Carib.* B. riparia, *Splitgerb.!*—Leaflets 8″–4″, petiole 6″–3″, pedicels 1‴, flowers 5‴–6‴ long.—HAB. Caribbean Islands; [Guadeloupe!; Panama!, Guiana!, equatorial Brazil!].

193. **S. excisa,** *Gr.* (*n. sp.*). Scandent, cirrhiferous, glabrescent; leaves *cordate-roundish, minutely bilobed at the summit* to one-sixth or one-tenth, 9–11-nerved: lobes parallel, deltoid-acuminate, bluntish; calyx-lips minutely denticulate; *petals* externally *villous,* at length glabrate, except in the middle, twice as long as the calyx.—Branchlets rusty-puberulous;

leaves 4″–3″ diam., coriaceous, glabrous above, slightly puberulous on the nerves beneath and glabrescent, rusty-coloured: nerves immersed above, prominent beneath: petiole 2″–1″ long; racemes elongated, often compound at the base; flowers nodding, "odorous," 6‴ long: pedicel 2‴ long; buds ovate, striate, contracted at the minutely denticulate top; calyx 3‴ long: lips shorter than the ventricose tube, one 2-, the other 3-denticulate; petals obovate-oblong; ovary villous, sessile; legume curved, flat-compressed, sericeous, shortly stipitate, apiculate, 1½″ long.—HAB. Trinidad!, *Cr.*, at Irais; [Panama!].

70. ETABALLIA, *Benth.*

"*Calyx* tubular, shortly 5-dentate to subbilabiate. *Petals* 5, inserted near the base of the calyx-tube. *Stamens* 10, monadelphous. *Ovary* subsessile: stigma obliquely capitate. *Legume* . . . .—Trees; leaflets *single, penninerved;* flowers *spicate.*"

194. **E. macrophylla,** *Benth.* "Leaves large, blunt; spikes, very large."—"Leaves coriaceous, glabrous, 8″–9″ long; petals linear."—HAB. S. Vincent (*Benth.*).

71. PRIORIA, *Gr.*

Calyx surrounded by a minute, slightly bilobed involucel, coloured, 5-partite. *Petals* 0. *Stamens* 10, distinct. *Ovary* sessile, 1-ovulate: disc filling up the calyx-tube. *Legume* . . . .—A tree: habit of *Copaifera;* leaves *abruptly pinnate, pellucid-dotted:* leaflets *large, 2–1-jugal;* flowers *in compound spikes.*

This new genus is dedicated to Dr. Alexander Prior, one of the chief promoters of this Flora. The affinity of *Prioria* with *Copaifera* is obvious, and traces of a ring (comparable to the involucel of the former) exist at the base of the ebracteate calyx of the latter. The calyx of *Prioria* might easily be taken for a corolla: but the correct view of the structure seems to result from the involucel being free from the calyx-tube, the perigynous insertion of the stamens, the inferior fifth calyx-segment (which is exterior in the bud), and the homologous organs of *Copaifera.*

195. **P. copaifera,** *Gr.* A very large, spreading, glabrous tree; leaves evergreen, coriaceous: leaflets 4 (–2), obliquely elliptical or elliptical-oblong, petiolulate, bluntish, reticulated with prominulous veins on both sides, 6″–4″ long, 4″–2″ broad: common petiole 1″ between, 8‴–6‴ long below the pairs, petiolules thickish, 3‴ long; panicles terminal, subfascicled, usually large, 1′ long, interrupted, the alternate subsessile spikes being 4‴–6‴ distant from each other, and 4″(–2″) long: flowers clustered or solitary, and about 1‴ distant from each other, supported by a very minute roundish bract; involucel exceeding the bract, ⅓‴ long: lobes broadly rounded or subtruncate; calyx-tube turbinate, exceeding the involucel, sessile, ½‴ long: segments oval, ciliate, equal, imbricate, 1‴ long, half as long as the hairy equal filaments; anthers incumbent, oval-oblong: cells distinct, curved; ovary hairy, sessile above the calyx-tube, obliquely ovate, ⅓ as long as the filiform style: stigma minute: ovule hanging from the upper part of the suture, hemitropous.—HAB. Jamaica!, *Wils.*, rare at Bachelor's Hall, near Bath.

72. COPAIFERA, *L.*

Calyx coloured, 4-partite. *Petals* 0. *Stamens* 10, distinct. *Legume* stipitate, obliquely ovoid, coriaceous, bivalved, 1-seeded. *Radicle* inferior.—Trees; leaves *pinnate, often pellucid-dotted;* flowers *in compound, spiciform racemes.*

196. **C. officinalis,** *Jacq.* (*Amer. Pict. p.* 67). Leaves abruptly pinnate: leaves 5–1-jugal, coriaceous, unequal-sided, obliquely ovate, with a bluntish point, glabrous, pellucid-dotted; racemes slightly puberulous; legume ovoid-globose, slightly compressed, glabrous: carpophore very short.—*Jacq. Amer. Pict. t.* 128.—C. Jacquini, *Desf.*—A high tree; leaflets 3″ (–1″) long, usually alternate, one of the uppermost often abortive; calyx white, 2‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Sieb. Trin.* 55, *Cr.;* [Venezuela].

73. CRUDYA, *W.*

Calyx-tube turbinate: limb 4-partite. *Petals* 0. *Stamens* 8–10, distinct, inserted with

the ovary into the summit of the calyx-tube. *Legume* sessile, woody-coriaceous, flat-compressed, roundish or oblong, 1–2-seeded, tardily dehiscent.—Trees; leaves *pinnate* (*or reduced to a single leaflet*): leaflets *alternate;* flowers *in axillary racemes.*

197. **C. spicata,** *W.* *Leaflets* 9–13, *oblong-lanceolate, acuminate,* subequal at the base, glabrous; *legume oval-roundish,* lurid-tomentose, rugulose with anastomosing veins.—*Aubl. t.* 147. *f.* 1–4.—Apalatoa, *Aubl.*—Leaflets 4″–3″ long, 12‴–9‴ broad; legume 3″ long, 2″–2½″ broad.—Hab. Jamaica!, *Pd.*, in the great morass of Westmoreland; [Guiana].

198. **C. oblonga,** *Benth.* *Leaflets* 4–7, *oblong, pointleted,* slightly unequal-sided, and oblique at the base, glabrous above, puberulous on the ribs beneath, or glabrate; *legume oval-roundish,* lurid-tomentose, rugulose with anastomosing veins.—Leaflets 4″–3″ long, 2″–1½″ broad; legume 3″–3½″ long, 2″–2¼″ broad.—Hab. Trinidad!, *Cr.;* [Guiana].

199. **C. obliqua,** *Gr.* (*n. sp.*). *Leaflets* 7-4, *oblong, pointleted,* unequal-sided, oblique at the base, glabrous; *legume broadly oblong, obliquely rounded at the base,* subtruncate at the top, lurid-tomentose, rugulose with anastomosing veins.—Hirtella glaberrima, *Steud.! in Pl. Hostm.*—Leaflets 5″–3″ long, 2½″–1½″ broad: the midrib often twice as much distant from one margin as from the other; racemes lax, puberulous, 6″ long: pedicels 3‴ long, much longer than the alternate, 2, infraterminal bracteoles: calyx 2½‴ long, deciduous, white; ovary villous, ovate, 2‴ long: style filiform, unciuate, 5‴–6‴ long: stigma minute; legume 5″–4″ long, 2½″–2″ broad: margins tumid.—Hab. Trinidad!, *Pd.*, *Cr.*, in swamps; [Guiana!].

The African *Dialium guineense,* W. (*D. nitidum,* Fl. Seneg. t. 58), was sent by Guilding from S. Vincent, but is probably only a cultivated tree in that island.

74. MORA, *Schomb.*

Calyx campanulate, 5–6-dentate. *Petals* 5–6, equal. *Stamens* 10–12, alternately sterile. "*Legume* woody-coriaceous, oblong, 1-seeded by abortion."—Trees; leaves *abruptly pinnate;* flowers *in dense, elogated spikes.*

200. **M. excelsa,** *Benth.* Leaflets 4–3-jugal, oblong, glabrous; petals obovate, ciliate, twice as long as the calyx; stamens covered with deciduous wool.—*Linn. Transact.* 18. *t.* 16, 17.—A high tree; leaflets 8″–5″ long, bluntish; spikes compound at the base, 6″–10″ long, nodding; petals 2‴ long; stamens exserted.—Hab. Trinidad!, *Cr.;* [Guiana].

Tribe III. *MIMOSEÆ.—Flowers regular. Æstivation of the calyx and the corolla valvate (rarely slightly imbricate). Embryo straight.*

75. PENTACLETHRA, *Benth.*

Calyx 5-dentate: teeth broad; slightly imbricate. *Stamens* monadelphous at the base, 5 fertile, exserted, 5 (–15) sterile: anthers oblong, with a terminal gland.—Trees; leaves *bipinnate;* flowers *spicate.*

201. **P. filamentosa,** *Benth.!* Pinnæ 20–10-jugal: leaflets 50–30-jugal, linear, falcate at the top and at the produced base, glabrous; sterile stamens 5, long-exserted, and exceeding the fertile ones.—Acacia aspidioides, *Mey.!*—Leaflets 3‴–4‴ long, ½‴ broad; spikes 6″–8″ long, often aggregate, or paniculate at the summit of the branches: rhachis rusty-tomentose: corolla deeply 5-fid, 2‴ long; sterile filaments 8‴ long: anther-gland subsessile.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Cr.:* a common tree on waste ground at Cocorite; [Nicaragua!, Guiana!, Pará!].

Parkia biglobosa, Benth., was observed by Jacquin in Martinique (*Mimosa,* ej. Amer. Pict. t. 262. f. 68: the biglobose spike).

76. ENTADA, *Ad.*

Calyx 5-dentate. *Stamens* 10: anthers ovoid-oblong, with a gland. *Legume* flat-compressed, jointed: the joints separating from each other, and leaving a persistent, continuous border (the replum).—Woody vines; leaves *bipinnate, often cirrhiferous;* flowers *in spiciform racemes.*

202. **E. scandens,** *Benth.* Unarmed, cirrhiferous; *pinnæ* 1–2-*jugal: leaflets* 2–5-

jugal, oblong, or elliptical-oblong, usually unequal-sided, glabrous or glabrescent beneath; *racemes solitary or geminate;* legume sinuate, twisted.—*Tuss. Fl.* 3. *t.* 21. *Desc. Fl.* 3. *t.* 200.—Mimosa, *L.* Acacia, *W.* E. gigalobium, *DC.*—Climbing to an immense height; leaflets 3″–1″, legume 2′–8′ long.—HAB. Jamaica!, *Al.*, common in mountain-woods; [Guadeloupe!; trop. Africa! and Asia!; Pacific islands].

203. **E. polystachya,** *DC.* Unarmed, at length cirrhiferous; *pinnæ* 4–6(–2)-*jugal: leaflets* 6–8-*jugal*, oblong, rounded at the top, glabrous or puberulous beneath; *racemes in terminal panicles;* legume oblong, entire, straightish.—*DC. Leg. t.* 61, 62. *Jacq. Amer. Pict. t.* 262. *f.* 67.—Mimosa, *Jacq.* M. chiliantha, *Mey.!*—Leaflets about 1″ long; racemes 2″–3″ long, spreading, densely crowded; legume 12″–6″ long.—HAB. Dominica!, *Imr.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Panama!, Venezuela!, Guiana!].

77. PIPTADENIA, *Benth.*

Flowers of *Entada.* *Legume* broadly linear, flat-compressed, bivalved: seeds compressed. —Woody plants; leaves *bipinnate, with petiolar glands;* flowers *sessile, in heads or spikes.*

204. **P. peregrina,** *Benth.!* Pinnæ 15–30-jugal: leaflets 30–80-jugal, minute, linear, glabrescent: petiole puberulous, bearing a gland above its base; flower-heads globose, small, much shorter than the puberulous peduncle; legume moniliform-sinuate, stipitate: valves coriaceous, rough.—*Kth. Mimos. t.* 30.—Mimosa, *L.*—A high, unarmed tree; leaflets 1‴–2‴, legume 6″–3″ long: flowers white. The flowers are sometimes reduced in parts, and the anther-gland is caducous.—HAB. S. Vincent!, *Anders.;* cultivated in Trinidad!, *Cr.;* [New Granada, Guiana!, Brazil!].

78*. ADENANTHERA, *L.*

Calyx 5–4-dentate. *Stamens* 10–8: anthers ovoid-oblong, with a stipitate, terminal gland. *Legume* linear, compressed, tumid with biconvex seeds, bivalved.—Trees; leaves *bipinnate;* flowers *in racemes.*

205*. **A. pavonina,** *L.* Pinnæ 2–5-jugal, distant: leaflets 6–10-jugal, alternate, oval, or oval-oblong, glabrous; stamens included, with the glands exserted; legume slightly falcate.—*Jacq. Coll.* 4. *t.* 23.—Leaflets about 1″ long; pedicels as long as the flower; legume 6″–8″ long, 6‴ broad.—HAB. Naturalized in Jamaica!, *Al.*, *Wullschl.*, and in the Caribbean Islands!; [introduced from the East Indies!].

79. PROSOPIS, *L.*

Calyx 5-dentate. *Stamens* 10: anthers ovoid-oblong, mostly with a terminal gland. *Legume* linear, indehiscent, baccate.—Woody plants; leaves *bipinnate;* flowers *spicate:* petals *internally villous in the American species.*

206. **P. juliflora,** *DC.* Armed with axillary spines, glabrous; pinnæ 1–2-jugal: leaflets 20–15-jugal, linear-oblong, blunt; spikes elongated; legume falcate, entire, compressed, at length thickish: endocarp separating into a series of closed joints.—*Desc. Fl.* 8. *t.* 550.—Mimosa, *Sw.* (M. piliflora, *Sw. Fl.*, is a misprint). Algarobia, *As. Gr.* P. dulcis, *var.* domingensis, *Benth.!*—*P. dulcis,* Kth., has a straightish, sinuate legume; *P. glandulosa,* Torr., has the legume nearly as in our species, but longer and less numerous leaflets.—A tree, 30′–40′ high, sometimes reduced to a dwarfish shrub; petioles bearing a sessile gland between the pinnæ; leaflets 4‴–6‴ long, 1‴–2‴ broad (much smaller than in *P. glandulosa* of Texas); legume 6″–8″ long, 6‴ broad, at length 3‴–4‴ thick.—HAB. Jamaica!, *Al.*, common in dry districts; [Mexico! to Guayaquil!].

80. NEPTUNIA, *Lour.*

Calyx 5-dentate. *Stamens* 10 (–5): anthers ovoid-oblong, with a stipitate, terminal gland. *Legume* oblong, flat-compressed, membranaceous, bivalved.—Herbs; leaves *bipinnate:* stipules *obliquely cordate-subulate;* flower-heads peduncled.

207. **N. oleracea,** *Lour.* *Floating,* radicant, glabrous; pinnæ 2–3-jugal: *petiole eglandular:* leaflets 8–20-jugal, linear-oblong; flower-heads ovoid: inferior flowers sterile,

with petaloid, long-exserted filaments; *legume long-stipitate*, deflexed, 5–8-seeded.—*Humb. Pl. Equin. t.* 16.—Desmanthus lacustris *and* natans, *W.* D. stolonifer, *DC.*—Floating stem often 8‴ thick, spongy, with slender, emerging branchlets; flowers yellow; legume 8‴–12‴ long, 4‴ broad: stalk 4‴ long.—HAB. Jamaica!, *Pd.*, in ponds, S. Elizabeth; [Texas; all tropical countries, *e.g.* Guayaquil!, Pará!, Nubia!, East Indies!].

208. **N. plena,** *Benth.* Slender, suffrutescent, glabrescent; pinnæ 3–5-jugal: *petiole bearing a gland between the lowest pair:* leaflets 12–40-jugal, sensitive, linear-oblong; flower-heads ovoid: inferior flowers sterile, with petaloid, long-exserted filaments; *legume stipitate*, at length deflexed, 5–20-seeded.—*Mill. Ic. t.* 182. *f.* 2.—Mimosa, *L.* N. surinamensis, *Steud.* Desmanthus punctatus, *W.* D. comosus, *Rich. Cub.*—Sterile filaments numerous, 4‴ long; legume 12‴–18‴ long, 4‴–5‴ broad: stalk 2‴–3‴ long.—HAB. Jamaica!, *Wullschl.*; Antigua!, *Nichols.*, *Wullschl.*; [Mexico! to Brazil! and Paraguay!, Galapagos!].

209. **N. pubescens,** *Benth.* Slender, suffrutescent, puberulous; pinnæ 2–4-jugal: *petiole eglandular:* leaflets 12–30-jugal, linear, ciliate; flower-heads globose; *legume shortly stipitate*, 4–6-seeded.—Sterile flowers less numerous, or wanting; legume 8‴–6‴ long, 4‴–3‴ broad: stalk 1‴ long.—HAB. Dominica!, *Imr.*, in savannahs; [Haiti!, Costarica!, Peru!].

81. DESMANTHUS, *W.*

Calyx 5-dentate. *Petals* subdistinct. *Stamens* 10 (–5): anthers ovoid-oblong, eglandular. *Legume* linear, flat-compressed, tumid at the seeds, membranaceous, bivalved.—Suffrutescent herbs; leaves *bipinnate, sensitive:* stipules *setaceous;* flower-heads *peduncled.*

210. **D. virgatus,** *W.* Glabrescent; stem virgate, angular; pinnæ 2–4(1–7)-jugal: *petiole bearing an ovate-oblong gland between the lowest pair:* leaflets 10–25-jugal, linear or oblong-linear; legume straightish, 20–30(–10)-seeded: seeds oval.—*Jacq. H. Vind. t.* 80.—Mimosa, *L.*—4′–6′ high; flowers white; legume 3″–2″ long, 2‴ broad.

α. Leaflets linear, 2‴–3‴ long.

β. strictus, Bert. Leaflets oblong-linear, 4‴ long.

HAB. Jamaica!, all collectors, a common weed; Nevis!, Antigua!, *Wullschl.*; Dominica!, *Imr.*; S. Vincent!, *Guild.* (*β*); Barbadoes; [Florida!, Lower California!, Mexico! to Buenos Ayres!, East Indies!].

211. **D. depressus,** *Kth.* Glabrescent; stem prostrate, striate; pinnæ 5–2(–1)-jugal: *petiole bearing an orbicular gland between the lowest pair, or eglandular:* leaflets 10–20-jugal, linear; legume straightish, 8–20-seeded: seeds oval.—*Kth. Mimos. t.* 35.—D. pratorum, *Macf.*—More delicate than the preceding; stem branched, 8″–12″ long; leaflets 2‴ long; flowers white; legume 1″–2″ long, 2‴ broad.—HAB. Jamaica!, *Macf.*, in pastures; Antigua!, *Wullschl.*; S. Lucia!, *Anders.*; [Florida!, Texas! to Peru!, Galapagos!].

82. MIMOSA, *L.*

Calyx dentate or abortive. *Corolla* 4–5(–3–6)-cleft. *Stamens* as many or twice as many as the petals: anthers globose, eglandular. *Legume* compressed, dehiscent: valves separating from the entire border (the replum), jointed or continuous.—Leaves *mostly bipinnate, sensitive, mostly devoid of petiolar glands;* flower-heads *peduncled in the West Indian species;* exserted stamens *usually rosy or white.*

Sect. 1. EUMIMOSA.—*Stamens as many as the petals, usually* 4.

212. **M. viva,** *L.* Herbaceous, low, prostrate, *radicant*, unarmed, glabrescent; *pinnæ 1-jugal:* leaflets 4–5-jugal, oblong or obovate-oblong, blunt; flower-heads globose; *legume* subquadrate, 1-*seeded*, hairy.—*Sl. t.* 182. *f.* 7.—Stem filiform, diffuse, rooting at each node; peduncles and leaves 1″–2″ high; leaflets 2‴ long.—HAB. Jamaica!, *Al.*, in pastures, S. Anns, S. Thomas in the East.

213. **M. casta,** *L.* Stem suffruticose, glabrous, *armed* the whole length and on the petioles *with recurved prickles; pinnæ* 1-*jugal*, somewhat shorter than the petiole: *leaflets* 3–4-*jugal*, unequal-sided, oblong or half-elliptical, pointed, margined, usually strigose beneath and on the margin with scattered bristles; peduncles nearly as long as the globose flower-heads, much exceeded by the petioles; "legume-valves jointed, glabrous: border prickly."—

Desc. Fl. 2. *t.* 119.—M. dominiciana, *Desv.?*—Leaflets 8‴–12‴ long: common petiole 3″–2″ long.—HAB. S. Vincent!, *Guild.*; [Martinique].

214. **M. pudica,** *L.* Stem herbaceous, suffrutescent, hairy or glabrate, armed with infrastipular and scattered prickles; *pinnæ 2–1-jugal,* nearly as long as the petiole: *leaflets 15–25-jugal,* oblong-linear, pointed, ciliate with appressed bristles, glabrescent; flower-heads ovoid; calyx abortive; legume oblong, sinuate, 2–5-seeded: valves jointed, glabrous, unarmed: border armed with spreading prickles.—*Plum. Ed. Burm. t.* 202.—Leaflets 3‴–6‴ long.

α. Pinnæ 2-jugal, approximate, or the uppermost 1-jugal.

β. *unijuga,* Walp.! Pinnæ 1-jugal.—M. irritabilis, *Prl.*

HAB. Jamaica!, *Al.* (α), *March* (β), common in pastures; S. Kitts!, Antigua!, *Nichols.*, *Wullschl.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Trin.* 110; [Mexico! to Brazil!; Sandwich Islands!; East Indies!].

215. **M. polydactyla,** *Humb.* Stem suffruticose, hairy or glabrate, armed with scattered prickles; *pinnæ 5–3-jugal,* approximate, nearly as long as the petiole: *leaflets 25–60-jugal,* linear, pointed, ciliate with appressed bristles, glabrescent; flower-heads ovoid-globose; calyx abortive; "legume-valves glabrous, unarmed: border prickly."—*Kth. Mimos. t.* 5.—Leaflets 2‴–3‴ long.—HAB. S. Vincent!, *Guild.*; [Guiana! to Brazil!].

Sect. 2. HABBASIA.—*Stamens twice as many as the petals. Legume-valves jointed.*

216. **M. asperata,** *L.* Shrubby; stem and petioles rusty-hispidulous, armed with strong subulate prickles; *pinnæ 8–15-jugal: leaflets 20–60-jugal,* linear, obliquely pointed, glabrous above, ciliate, puberulous beneath: rhachis hispid: stipules subulate; flower-heads globose, exceeded by the leaves, superior racemose; *calyx cut into terminal bristles;* legume oblong, 8–10-seeded: joints transversely oblong, *covered* on the surface and on the border *with long, rusty-yellow bristles.*—*Mill. Ic. t.* 182. *f.* 3. *DC. Leg. t.* 63.—Leaflets 3‴–6‴ long; legume 3″–2″ long, 5‴ broad.—HAB. Jamaica!, *Pd.*; [S. Thomas!; Panama! to Brazil!; trop. Africa! to Egypt! and Madagascar!; East Indies!].

217. **M. thyrsoidea,** *Gr.* (*n. sp.*). Shrubby; stem and petioles pubescent with minute down, armed with scattered, subulate prickles; *pinnæ 4–7-jugal: leaflets 30–15-jugal,* unequal-sided, linear, obliquely pointed, glabrescent: rhachis pubescent: stipules setaceous, spinescent; *flower-heads* globose, arranged *in a panicle of compound racemes;* calyx minutely 4-dentate; legume . . . .—Allied to *M. sepiaria,* Benth., but the leaflets smaller, and the racemes only once compound. Prickles compressed, spreading or bent upwards, those of the petioles much smaller; leaflets 2‴–3‴ long: pinnæ 4‴ distant; panicle pyramidal: peduncles 10‴–12‴ long: flower-heads (the stamens included) 4‴–5‴ diam.; corolla 4-fid, four times as long as the calyx; stamens 8, long-exserted.—HAB. Jamaica!, *Wullschl.*

Sect. 3. AMERIA.—*Stamens twice as many as the petals. Legume-valves continuous.*

218. **M. bahamensis,** *Benth.!* Shrubby, tortuous, armed with scattered, recurved prickles; *branches* and petioles *rusty-tomentose; pinnæ 2–4-jugal: leaflets 6–3-jugal, half-obovate or oval-oblong,* glabrescent; flower-heads globose, with their diameter half as long as the peduncle, superior racemose; corolla 4-fid, twice as long as the calyx; legume . . . . —Leaflets 1‴–2‴ long.—HAB. Bahamas!, *Swains.*

219. **M. Ceratonia,** *L.* Shrubby, scandent, *glabrous;* branches and petioles armed with small recurved prickles; *pinnæ 3–5-jugal: leaflets 3-jugal,* very unequal-sided, *obovate-roundish;* flower-heads globose, superior racemose; corolla 3-fid; legume broadly oblong, entire, 5–8-seeded: valves continuous, glabrous, unarmed: border armed with recurved prickles.—*Plum. Ed. Burm. t.* 8.—Leaflets 8‴–3‴ diam.; legume 2″–1″ long, 8‴ broad. —HAB. Antigua!, *Wullschl.*, in Blubber Valley; Dominica!, S. Lucia!, *Anders.*; S. Vincent!, *Guild.*; [S. Thomas!].

83. SCHRANKIA, W.

Flowers of *Mimosa. Legume* linear, compressed-tetragonal, echinate with prickles: valves continuous, separating from the keeled, valve-shaped border: seeds oblong, parallel to the valves.—Branches *and* petioles *armed with recurved prickles;* leaves *bipinnate, sensitive.*

220. **S. brachycarpa,** *Benth.!* Suffrutescent; stem angular, virgate, pilose; pinnæ 8(–4)-jugal: leaflets 15–30-jugal, linear, glabrescent; peduncles as long as the globose flower-heads, superior racemose; legume short, acuminate: prickles marginal.—Leaflets 1‴–1½‴ long; peduncles distant, 4‴ long; immature legume 5‴–6‴ long.—HAB. Trinidad!, *Cr.*, at S. Anns; [Mexico to Brazil!].

84. LEUCÆNA, *Benth.* (*exclus. spec.*)

Calyx 5-dentate. *Stamens* 10: anthers ovoid-oblong, eglandular. *Legume* broadly linear, stipitate, flat-compressed, chartaceous, bivalved: seeds compressed, transverse to the valves. —Woody plants; leaves *bipinnate, with petiolar glands;* flower-heads *globose, white.*

221. **L. glauca,** *Benth.!* *Unarmed;* branches and *petioles powdery-puberulous;* pinnæ 4–8-jugal: leaflets 10–20-jugal, oblong-linear, pointed, oblique at the base, glabrescent, glaucous beneath; peduncles often fascicled; calyx half as long as the distinct petals; anthers oblong, glabrous.—*Catesb. Carol.* 2. *t.* 42 *sup.*—Mimosa, *L.* Acacia, *W.* A. leucocephala, *Lk.*—A tree; leaflets 3‴–4‴ long; legume 5″–6″ long, 8‴–10‴ broad.—HAB. Bahamas!, *Swains.*; Jamaica!, *Al.*, *March;* Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Mexico! to Brazil!; trop. Africa! and Asia!].

85. ACACIA, *W.*

Corolla 5–4(–3–6)-cleft. *Stamens* ∞–10: anthers eglandular, globose: pollen compound. *Legume* devoid of a thickened margin, compressed, rarely cylindrical.—Leaves *bipinnate in the West Indian species;* flowers *in peduncled heads or spikes, racemes, or clustered, usually yellow.*

Bentham has excluded from *Acacia* the monadelphous and the decandrous species. Monadelphy however in this genus is often an obscure character, and gradually increased in nearly related species, while decandrous species exist still among Bentham's *Acaciæ* and *Calliandræ* (*e.g. A. tamarindifolia,* W., *C. mollissima,* Benth., etc.), the separation of which would lead to establishing several new and artificial genera. It appears that, in *Mimosæ*, from the structure of the legume, more natural genera may be formed than from the flower, and if this principle cannot be followed up, as long as the fruit in many instances is unknown, it was possible to adopt it here, the legume of most of the West Indian species having been examined.

Sect. 1. EUACACIA.—*Legume dry, bivalved, compressed.*—Stipules not spinescent.

§ 1. *Flowers spicate; stamens* ∞, *subdistinct.*—Petioles glanduliferous.

222.* **A. Catechu,** *W.* Branchlets and petioles whitish-pubescent; *pinnæ* 10–30-*jugal: leaflets* 30–50-*jugal, linear,* bluntish, ciliate, glabrescent: petiolar gland solitary, scutellate, in the middle between the node and the lowest pinnæ; *spikes elongated,* axillary, exceeded by the leaves; legume stipitate, broadly linear, flat-compressed, glabrous: valves slightly reticulated with veins.—*Roxb. Corom.* 2. *t.* 175.—Mimosa, *L.*—A tree, unarmed or with infrastipular prickles; leaflets 2‴ long; flowers whitish (but yellow in Roxburgh's figure); legume 5″–6″ long, 6‴–8‴ broad: stalk 4‴–6‴ long.—HAB. Naturalized in Jamaica!, *March*, common; Antigua!, *Wullschl.;* [introduced from the East Indies!].

A. scleroxyla, Tuss. (Fl. 1. t. 21; Desc. Fl. 2. t. 93), a Haiti species, is very similar, but from its figures differs by a sessile legume, and the petiolar gland immediately below the lowest pinnæ: it has whitish flowers.

223. **A. nudiflora,** *W.* Unarmed; branchlets and petioles puberulous or glabrescent; *pinnæ* 4–6-*jugal: leaflets* 10–16-*jugal, oblong,* unequal-sided, rounded at the top, shining above, glabrescent beneath: petiolar glands between all the pinnæ, scutellate; *spikes elongated,* peduncled, pubescent; legume shortly stipitate, oblong-linear, flat-compressed, glabrous: valves coriaceous.—*Plum. Ed. Burm. t.* 11.—A. muricata, *W.* Mimosa, *L.* M. nigricans, *V.* A. Rohriana, *DC.*—A tree; leaflets 5‴–8‴ long, 2‴–3‴ broad; legume 4″ long, 8‴ broad: stalk 3‴ long.—HAB. Antigua!, *Wullschl.;* [Haiti!, S. Thomas!].

§ 2. *Flowers capitate; stamens* 10–20.—Petioles glanduliferous; stipules large, foliaceous.

224. **A. tamarindifolia,** *W.*, *Benth.!* Scandent, glabrous, *armed with recurved prickles; branchlets tetragonal; pinnæ* 4–8-*jugal*, distant: *leaflets* 6–20-*jugal*, *obliquely oblong*, mucronate or blunt: petiole bearing usually a gland in the middle between its base and the lowest pinnæ; flower-heads globose, in racemes; *stamens* 10, *subdistinct;* "legume flat-compressed, glabrous."—*Plum. Ed. Burm. t.* 7; *Jacq. H. Schœnbr. t.* 396: the separate flower by mistake is represented polyandrous.—Mimosa, *L.*—A woody climber; leaflets 3‴–4‴ long: stipules reniform, deciduous, often 1″ diam.; flowers whitish.—HAB. S. Lucia!, *Anders.;* S. Vincent!, *Guild.;* [Martinique!, *Sieb. Mart.* 174; Venezuela].

225. **A. bahamensis,** *Gr.* Glabrescent, *unarmed;* branchlets angular; *pinnæ* 2–4-*jugal*, distant: *leaflets* 10–20-*jugal*, obliquely oblong, bluntish: petiole bearing a gland below the lowest pinnæ; flower-heads globose, fascicled; *stamens* 20, *connected at the base;* legume . . . .—Lysiloma, *Benth.!*—I transfer it to this place for its affinity with the preceding. Leaflets 6‴–4‴ long, nigrescent by being dried: petiolar gland 2‴ distant from the pinnæ, and about 1″ from the node; stipules large, semiovate, pointed, 8‴ long.—HAB. Bahamas!, *Swains.*

§ 3. *Flowers capitate; stamens very numerous.*—Petioles glanduliferous.

226. **A. paniculata,** *W.* Subscandent, armed with small prickles (or unarmed); branchlets and petioles pubescent; *pinnæ* 10–20-*jugal: leaflets* 30–60-*jugal, minute, linear,* unequal-sided, blunt, ciliolate, glabrous: petiolar gland minute; flower-heads globose, paniculate; stamens ∞, subdistinct; legume shortly stipitate, oblong-linear, flat-compressed, glabrous.—A. microcephala, *Rich. Cub.* (*non Macf.*). A. Clauseni, *Benth.* A. martinicensis, *Prl.?*—A shrub, sometimes scandent (Rugel); leaflets 1‴ long; legume 5″–6″ long, 10‴ broad.—HAB. S. Lucia!, *Anders.;* [Cuba!; Guiana, Brazil].

227. **A. sarmentosa,** *Desv.* Scandent, armed with small prickles (or unarmed); branchlets and petioles puberulous or glabrescent; *pinnæ* 6–12-*jugal: leaflets* 15–30-*jugal, oblong-linear*, very unequal-sided, semicordate at the base, bluntish, glabrescent: petiolar glands usually minute; flower-heads globose, paniculate, or in axillary racemes; stamens ∞, subdistinct; legume stipitate, oblong-linear, flat-compressed, glabrous: valves membranaceous.—A. Westiana, *DC.*, *Benth.!* A. guadalupensis, *DC.* A. intsioides, *DC.*—A high, woody climber; leaflets 4‴–3‴ long; flowers white; legume 4″ long, 10‴ broad: stalk 4‴ long.—HAB. Jamaica!, *Wullschl.;* Antigua!, *Nichols.*, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Portorico!, Guadeloupe!; Panama!, Venezuela!, Guiana!, Brazil!].

§ 4. *Flowers pedicellate, in peduncled clusters or racemes; stamens* ∞.—Petioles eglandular.

228. **A. villosa,** *W.* Unarmed; branchlets and petioles villous-pubescent; *pinnæ* 5–8-*jugal: leaflets* 10–20(–" 25 ")-*jugal, oblong*, bluntish, puberulous beneath or glabrescent; racemes ovoid-oblong or subglobose: *pedicels longer than the calyx;* stamens very numerous; *legume* shortly stipitate, oblong, flat-compressed, *hairy:* valves membranaceous.—Mimosa, *Sw.* A. lophanthoides, *DC.* A. valenzuelana, *Rich.:* leaflets 20–25-jugal.—A shrub; leaflets 4‴ long; flowers white, with yellow anthers; legume 2″ long, 6‴ broad.—HAB. Jamaica!, all coll., common in the southern hills; [Cuba; Mexico! to Panama!].

Sect. 2. VACHELLIA.—*Legume turgid, subcylindrical or thickish-compressed, filled with pulp, indehiscent.*—Stipules or axils usually spinose: prickles none; flowers capitate in the West Indian species.

§ 1. *Stipules spinescent; stamens* ∞, *subdistinct.*

229. **A. macracantha,** *Humb. Bonpl.* Branchlets and petioles tomentose-pubescent (or glabrescent); pinnæ 40–8-jugal: leaflets 15–40-jugal, minute, linear, bluntish, glabrescent: petiole bearing a depressed gland above its base and several between the uppermost pinnæ; flower-heads globose, puberulous, subfascicled; *legume* sessile, *straight, velvety-tomentose* or puberulous, at length tumid, with the valves convex.—*Kth. Mimos. t.* 23.—A. macracanthoides, *Bert.* A. pellacantha, *Mey.!*—A tree or shrub, very variable in the down, the stipular spines either small, subrecurved (2‴–4‴ long), or valid, spreading (1″–2″ long), the number of pinnæ and leaflets, and the pulpy legume either continuous or subto-

rulose, with more or less convex valves, which however are never quite glabrous. Leaflets 1'''–2''' long; legume 4''–2½'' long, 4'''–6''' broad, 2'''–3''' thick.

α. Down whitish; legume velvety-tomentose.—A. subinermis, *Bert.*, *Macf.!*

β. *glabrescens.* Down evanescent; legume puberulous.—A. microcephala, *Macf.!* (*non Rich.*). A. flexuosa lasiocarpa, *Pl. Carib.*, *and probably* A. flexuosa, *Humb. Bonpl.*

HAB. Jamaica!, *Macf.*, *Al.*, *Bancr.*, *March*, in dry plains (α, β); [Guadeloupe!; Mexico!, Venezuela!, Ecuador!, Peru!, Buenos Ayres!; Galapagos!].

230. **A. tortuosa,** *W.* Branchlets and petioles tomentose-pubescent; *pinnæ* 2–6(–8)-*jugal: leaflets* 10–20-*jugal*, minute, oblong-linear, blunt, glabrescent: petiole bearing an oblong, depressed gland above its base and usually between the uppermost pinnæ: stipular spines valid; flower-heads globose, solitary; *legume curved, tomentose:* valves convex.—Mimosa, *L.* M. salinarum, *V.*—A shrub or low tree; leaflets 2''', whitish spines 6''' long.—HAB. Jamaica!, *Bancr.*, *Al.:* common in dry sandy plains; [Haiti!, S. Thomas!, S. Croix!; Mexico!, Venezuela!, Ecuador!; Galapagos!].

231. **A. Farnesiana,** *W.* Branchlets and petioles glabrescent; *pinnæ* 4–8(–2)-*jugal: leaflets* 10–20-*jugal*, minute, oblong-linear, blunt: petiole bearing a scutellate gland above its base and usually between the uppermost pinnæ: stipular spines setaceous; flower-heads globose, fascicled; *legume* shortly stipitate, *curved* (or straightish), *glabrous*, striate, oblong-linear, *at length cylindrical.*—*Desc. Fl.* 1. *t.* 1.—Mimosa, *L.* Vachellia, *W. A.*—A shrub or low tree: habit of the preceding; legume 2''–1½'' long, 4'''–6''' diam., young tumid-compressed: stalk 1'''–2''' long.—HAB. Jamaica!, *March;* Antigua!, *Wullschl.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* [Louisiana! to Buenos Ayres!; trop. Africa! to Algeria!, Candia!, and Egypt!; East Indies!; trop. Australia!, Sandwich Islands!].

232*. **A. arabica,** *W.* Branchlets and petioles tomentose-pubescent or glabrescent; *pinnæ* 4–1(–9)-*jugal: leaflets* 10–20-*jugal*, oblong-linear, blunt: petiole usually glanduliferous; flower-heads globose: *peduncles bracteolate at the middle; legume* stipitate, *compressed, moniliform-sinuate*, slightly curved, tomentose (or glabrescent).—*Roxb. Corom.* 2. *t.* 149.—A tree: spines spreading, either small, setaceous (2'''–3''' long) or valid (1''–1½'' long); leaflets 1½'''–2''' long; legume 4''–6'' long, 8''' broad: stalk 6'''–8''' long.—HAB. Naturalized in Antigua!, *Wullschl.;* cultivated in Jamaica!, *Wils.;* [introduced from Africa, where it ranges from Egypt to the Cape].

233. **A. coriophylla,** *Benth.* "Branchlets, petioles, and leaves glabrous; *pinnæ* 1–2-*jugal: leaflets* 3–5-*jugal*, *oval* or oblong-elliptical, coriaceous, shining; flower-heads puberulous, superior fascicled; *legume curved, oblong, glabrous*, turgid."—A. lentiscifolia, *Rich.?*—Bentham compares the leaflets with the leaves of *Buxus;* "spines minute or obsolete."—HAB. Bahamas (*Swains.*).

234. **A. acuifera,** *Benth.* Glabrous; *pinnæ* 1-*jugal: leaflets* 10–14-*jugal, oblong*, oblique at the base, subtruncate-obtuse, rigid, shining above: petiole bearing scutellate glands at the base and between the pairs; flower-heads globose: peduncles half as long or as long as the leaves; *legume* subsessile, *circinate-falcate*, linear, compressed, glabrous.—A tortuous, leafy shrub; branchlets covered with minute warts; common petiole 2''' long; stipular spines setaceous, 1'''–3''' (–9''') long; leaflets 4'''–2''' long, 1''' broad; peduncles 8'''–12''' long; legume pulpy, forming an entire or half a circle, the diameter of which is 8'''–6''': transverse diameters 1½'''–2''': ½'''.—HAB. Bahamas!, *Hjalmars.*, Turk Islands.

§ 2. *Spines* 2–1 *above the membranaceous stipules or obsolete; stamens monadelphous, definite.* (Chloroleucon, *Benth.*)

235. **A. parvifolia,** *W.* Branchlets and petioles puberulous; axillary spines spreading or obsolete; *pinnæ* 5–9-*jugal: leaflets* 10–30-*jugal*, small, *oblong-linear:* petiole bearing a gland above its base: stipules oblong, deciduous; flower-heads globose, shortly peduncled; stamens 10–12, connected at the base; *legume* broadly linear, *curved*, thickish-compressed, glabrous, tapering at the subsessile base.—Mimosa, *Sw.* Pithecolobium, *Benth.!* Calliandra Spruceana, *Benth.*—A shrub; leaflets 2''', stipules about 4'''–6''', peduncles 3'''–4''' long; legume 3'' long, 5''' broad.—HAB. Jamaica!, *Macf.*, *M'Nab*, on the sandy seacoast; [Veraguas!, Cayenne!, Pará!].

236. **A. Vincentis,** *Gr.* Puberulous or glabrescent; axillary spines spreading or obsolete; *pinnæ* 3–4-*jugal: leaflets* 5–9-*jugal*, broadly *oblong*, puberulous beneath: petio e

bearing a gland above its base: stipules oblong-linear, deciduous; flower-heads globose, shortly peduncled; stamens 10–12, connected at the base; legume . . . .—Pithecolobium, *Benth.*—A white-barked shrub, like the preceding; leaflets membranaceous, 4‴ long, 2‴ broad, stipules as long; peduncles 6‴ long.—HAB. S. Vincent!, *Guild.;* [Venezuela!].

Sect. 3. ALBIZZIA.—*Legume flat-compressed, indehiscent or tardily bivalved. Stamens usually monadelphous.*—Unarmed plants.

Bentham regards *Albizzia* as a genus confined to the old world, and distinguished from from *Acacia* by monadelphous stamens. I see, however, no important difference in certain of his American *Pithecolobia*. *A. trichodes*, W. (*Leucæna*, Benth.), said to be West Indian, is also related to *Albizzia*, but has 10 distinct stamens.

237. **A. Berteriana,** *Balb.* Branchlets glabrescent; *pinnæ* 8–12-*jugal: leaflets* 30–50-*jugal, linear* or oblong-linear, very unequal-sided, semicordate at the base, glabrous, *shining above:* petiole bearing an oblong gland above its base; flower-heads globose, shortly peduncled, racemose, and in a leafy panicle; *stamens* 10–20, monadelphous: *their tube as long as the corolla; legume* straight, *broadly linear,* shortly stipitate, velvety-puberulous, indehiscent: valves membranaceous, connected between the seeds.—Pithecolobium, *Benth.* P. fragrans, *Benth.!* Inga fragrans, *Macf.!*—A tree; leaflets 3‴–4‴ long; peduncles fascicled, 4‴ long; corolla white, much longer than the calyx; legume 4″ long, 6‴ broad. —HAB. Jamaica!, *Macf.*, common in the mountains of Port Royal; [Panama!].

238*. **A. Julibrissin,** *W.* Branchlets pubescent (or glabrescent); *pinnæ* 7–12-*jugal: leaflets* 20–40-*jugal, obliquely oblong,* with a juxtamarginal midrib, pointed, ciliate: petiole bearing an orbicular gland above its base; flower-heads globose, racemose; *stamens* 10–15, *connected at the base; legume* straight, *moniliform-sinuate,* acuminate at both ends, glabrous, indehiscent: valves cohering, membranaceous.—Albizzia, *Boiv.* Ac. trichophylloides, *Macf.* A. angustiloba, *DC. sec. Macf.*—A tree; leaflets 3‴–4‴ long; stamens 4 times as long as the puberulous corolla; legume 4″ long, 8‴ broad at the seeds.—HAB. Naturalized in Jamaica!, *Wils.*, and the Caribbean Islands; [introduced from Asia, where it ranges from Talüsch! and northern China to the East Indies.]

239*. **A. Lebbek,** *W.* Glabrescent; *pinnæ* 2–4-*jugal: leaflets* 5–9-*jugal,* large, *obovate-oblong* or oblong, unequal-sided, rounded at the top: petiole bearing an oval gland above its base; *flowers pedicellate,* in long-peduncled clusters; *stamens* ∞, *connected at the base;* legume straight, oblong-linear, pointed at both ends, sessile, flat and tumid at the seeds, glabrous, tardily bivalved.—*Tuss. Fl.* 4. *t.* 29.—Albizzia, *Benth.* Ac. speciosa, *W.* A. propinqua, *Rich.:* a pubescent form.—A tree; leaflets 1″–2″ long; corolla white, twice as long as the calyx; stamens long, yellow, greenish at the top; legume 6″–12″ long, 1″–2″ broad.—HAB. Naturalized in Jamaica!, *Dist.*, *Al.;* Antigua!, *Wullschl.*, St. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Senegambia! to Egypt!; East Indies! to Afghanistan! and China!].

86. LYSILOMA, *Benth.*

Corolla 5-fid. *Stamens* ∞–15, monadelphous: anthers eglandular, globose. *Legume* of *Mimosa.*—Habit of *Acacia.*

240. **L. Marchiana,** *Gr.* (*n. sp.*). Branchlets puberulous or glabrescent; *pinnæ* 2–3-*jugal,* spreading: *leaflets* 20–12-*jugal,* unequal-sided, oblong, bluntish, truncate at the base: *petiole eglandular: stipules minute,* subulate, subspinescent; flower-heads globose, long-peduncled, axillary; stamens ∞, connected at the base; legume short, falcate, glabrous: valves membranaceous.—Bark whitish; branches diffuse, leafy; leaves membranaceous, lively-green, glabrescent: pinnæ 3‴ distant from each other, 8‴ from the base: leaflets 4‴ long, 1‴ broad, inferior pairs smaller: stipules 1‴ long, somewhat pungent, but deciduous; peduncles subsolitary, 2″–1″ long; flowers sessile, glabrous; corolla campanulate, 2‴ long, twice as long as the calyx; stamens very numerous, 8‴ long; legume 10‴ long, 3‴ broad, semicircinate-oblong, blunt, pointed at the sessile base, 5–6-seeded, flat-compressed: valves continuous, separating from the cartilaginous border.—HAB. Jamaica!, *March, Wullschl.*

87. CALLIANDRA, *Benth.*

(Zygia, *P. Br.*, *non E. Mey.*)

Corolla 5-dentate, rarely 5(–3)-fid. *Stamens* ∞–10, long-exserted, monadelphous. *Legume* mostly compressed, thickened on the margin, usually at length elastically bivalved. —Leaves *bipinnate, usually eglandular;* flowers *in large heads or clusters: stamens purple or white.*

Sect. 1. PSEUDACACIA.—*Flowers sessile. Calyx membranaceous, not striate. Corolla* 5-*fid. Stamens* 20–∞, *shortly connected at the base.*—Leaflets small, many-jugal.

241. **C. portoricensis,** *Benth.!* Unarmed; branchlets and petioles pubescent (or glabrate); *pinnæ* 4–6(–2–8)-*jugal: leaflets* 15–25(–40)-*jugal*, oblong-linear, bluntish, glabrescent; flower-heads globose, usually fascicled; stamens 20–25; legume straight, linear, tapering at the base, glabrous: valves chartaceous.—*Jacq. Ic. Rar. t.* 633.—Mimosa, *Jacq.* Acacia, *W.* A. ungulata, *Desv.* A. vespertina, *Macf.!* A. litoralis, *Rich. Cub.*—M. caracasana, *Jacq.* (*l.c. t.* 632; Acacia, *W.*), differs by purple stamens and the calyx glanduliferous on the margins, but is according to Bentham the same species.—A shrub, 10′ high; leaflets 4‴–5‴ long; flowers and stamens white; legume 3″ long, 3‴ broad.—HAB. Jamaica!, *Macf.*, *Hartw.*, *March*, common in the mountains; [Cuba and Mexico! to Venezuela! and Ecuador!]

Sect. 2. EUCALLIANDRA.—*Flowers usually sessile. Calyx striate. Corolla* 5-*dentate. Stamens connected with a slender tube. Legume devoid of pulp.*

§ 1. *Stamens* 20; *tube slender, included within the corolla.*—Leaflets small, many-jugal.

242. **C. Cruegerii,** *Gr.* (*n. sp.*). Unarmed; branchlets and petioles lanuginose; *pinnæ* 4–3-*jugal: leaflets* 20–40-*jugal, falcate-linear*, acuminate with a bluntish point, rigid, ciliate, glabrescent: stipules persistent, oblong-lanceolate, striate; *flower-heads* globose, *subsessile*, axillary, or in an interrupted spike; *corolla hirsute*, twice as long as the glabrescent calyx; stamens 20, connected to one-third; legume . . . .—Allied to *C. dysantha*, Benth. Branches leafy; leaflets 2‴–1½‴ long: pinnæ 3‴ distant from each other and from the base of the petiole: stipules rusty-scariose, 3‴ long; corolla 3‴ long, 2–3 times exceeded by the purple stamens.—HAB. Trinidad!, *Cr.*, at Chocachocacco.

§ 2. *Stamens* 10–15: *tube included within the corolla.*—Leaflets small: stipules spiny, or with a spine at their base.

243. **C. hæmatomma,** *Benth.!* Branchlets *armed* with infrastipular spines, pubescent or glabrescent; *pinnæ* 1-*jugal: leaflets* 7–4-*jugal*, oblong, blunt, glabrous, subciliate; flowers sessile in peduncled heads; corolla thrice as long as the calyx; stamens 10–15, connected at the base; legume straightish, linear, tapering at the base, villous-pubescent: valves coriaceous.—*DC. Lég. t.* 68.—A tortuous shrub; leaves shortly petioled, exceeded by the peduncles; leaflets 3‴–2″, petiole 2‴–1‴, setaceous spines 3‴–1‴, lanceolate, striate stipules 2‴, puberulous peduncles 1″–1½″, corolla 2‴, purple stamens 8‴–12‴ long; legume 2½″ long, 3‴ broad: seeds roundish, compressed, pendulous.

α. Corolla strigose-pubescent; calyx 5-dentate.

β. glabrata. Corolla glabrous; calyx 5-fid, spreading.

HAB. Bahamas!, *Swains.* (*α*); Jamaica!, *March*, *Wils.*, in maritime woods, St. David (*β*); [Haiti!].

§ 3. *Stamens* 10–20: *tube slender, exserted.*—Leaflets broad, few or 1-jugal, shining above.

244. **C. purpurea,** *Benth.! Unarmed*, glabrescent; *pinnæ* 1-*jugal: leaflets* 7–3-*jugal*, elliptical-oblong or obovate, bluntish; flowers sessile, in peduncled heads; corolla thrice as long as the calyx; stamens 10: tube shortly exserted; legume slightly curved, broadly linear, long-tapering at the base, glabrous: valves chartaceous, with very thick margins.—*Plum. Ed. Burm. t.* 10. *f.* 2.—Mimosa, *L.* Inga, *W.*—Leaflets 4‴–8‴ (–12‴), peduncles 15‴–3‴, corolla 3‴, purple stamens 12‴ long; legume 3″ long, 5‴–4‴ broad above.—HAB. S. Kitts!, Antigua!, *Nichols.*, *Wullschl.*; St. Vincent!, *Anders.*; [S. Croix; Venezuela!, Guiana!, Pará!].

245. **C. tergemina,** *Benth.!* Unarmed, glabrous; *pinnæ* 1-*jugal: leaflets* 1½-*jugal* (*i.e.* one in the inferior pair abortive), obliquely obovate-oblong, blunt; flowers sessile in pe-

duncled heads; corolla slender, much longer than the minute calyx; stamens 10: tube shortly exserted; legume straightish, lanceolate-linear, stipitate, glabrous: valves chartaceous.—*Plum. Ed. Burm. t.* 10. *f.* 1.—Mimosa, *L.* Inga, *W.*—A shrub; leaflets 6‴–12‴, peduncles 18‴–3‴, corolla 4‴, stamens 18‴–15‴ long; legume 4″–3″ long, 4‴ broad: stalk 1‴ long.—HAB. Dominica !, *Imr.*; S. Lucia !, *Anders.*; S. Vincent !, *Guild.*; Trinidad !, *Cr.* (where it is perhaps not native).

246. **C. Guildingii,** *Benth.* ! Unarmed, glabrous; *pinnæ* 1-*jugal*: *leaflets* 3–2-*jugal*, semi-elliptical, bluntish, inferior decrescent, rhomboid; flowers sessile, in peduncled heads; corolla slender, 3–2 times as long as the calyx; stamens 10: tube shortly exserted; legume curved, lanceolate-linear, long-tapering below: valves chartaceous, with very thick margins. —Leaflets 2″–8‴, peduncles 2″–1″, corolla 6‴–5‴, purple stamens 2″ long; legume 5″–4″ long, 3‴–2‴ broad.—HAB. S. Vincent !, *Guild.*; introduced in Trinidad !, *Lane.*

§ 4. *Stamens* 20–40.—Leaflets broad, 8–10-jugal.

247. **C. comosa,** *Benth.* Unarmed, glabrous; *pinnæ* 3–2-*jugal*: *leaflets* 10–8-*jugal*, oblong-trapeziform, broadly truncate at the base, oblique above; flowers sessile, in peduncled, corymbose heads; legume curved, lanceolate-linear, compressed, stipitate, glabrous: valves coriaceous.—Mimosa, *Sw.* ! Inga, *W.* Pithecolobium, *Benth.*—A shrub, 15′–20′ high: habit of *Pithecolobium micradenium,* but devoid of petiolar glands; leaflets 5‴–6‴ long, 2‴–3‴ broad; corolla 5–3-fid, 3‴ long; legume 2″–2½″ long, 3‴ broad above, tapering below into a 6‴ long stalk.—HAB. Jamaica !, *Sw.*, rare on mountain rocks of the northern districts.

Sect. 3. CAULANTHON.—*Flowers sessile: heads fascicled, lateral. Corolla striate,* 5-*dentate. Stamens* 20, *connected into a slender, exserted tube. Legume flat-compressed, not elastically, and tardily dehiscent.*—Leaflets large.

248. **C. latifolia,** *Gr.* Unarmed, glabrous; *pinnæ* 1-*jugal*: *leaflets* distant, 2½–1½-*jugal,* elliptical, pointed, oblique at the acute base, inferior alternate or solitary; flower-heads sessile or shortly peduncled on the branches of the foregoing year; corolla tubular, much exceeding the minute calyx; staminal tube long-exserted; legume slightly curved, linear-oblong, rounded at the base, repand on the slightly thickened margin: valves coriaceous, glabrous.—*Br. Jam. t.* 22. *f.* 3. *Plum. Ed. Burm. t.* 9.—Mimosa, *L.* Inga, *W.* Pithecolobium, *Benth.* !—This is P. Browne's *Zygia,* erroneously referred by De Candolle to an African plant: but *Caulanthon* might as well be regarded as a distinct genus from the peculiar dehiscence of its legume.—A tree, 25′ high; leaflets 5″–2″ long: an orbicular (or obsolete) gland between the upper pair; flowers crimson or rosy; corolla 4‴ long; stamens about 1″ long, connected to the middle; legume 5″–4″ long, 10‴–8‴ broad.—HAB. Jamaica !, *Wils.*, *March,* on the banks of the Wagwater, S. Andrews; S. Vincent !, *Guild.*; Trinidad !, *Cr.*, at Caroni.

Sect. 4. SAMAN.—*Flowers pedicellate. Calyx tomentose, not striate. Corolla* 5-*dentate. Stamens connected into an included tube. Legume filled with pulp.*—Leaflets broad: petiole glanduliferous.

249. **C. Saman,** *Gr.* Unarmed; branchlets velvety-pubescent; *pinnæ* 4(–2–6)-*jugal, leaflets* 7–2(–1)-*jugal,* obliquely obovate, or obovate-oblong, blunt, shining-glabrous above, pubescent beneath: petiole bearing glands at the base and between the pinnæ; flower-clusters long-peduncled; calyx shortly pedicellate, tomentose, subventricose, a little exceeding half the pubescent corolla; stamens 20, shortly connected; legume straight (or curved), linear, subsessile: valves coriaceous, glabrous: thickened margins pubescent.—*Jacq. Fragm. t.* 9.—Mimosa, *Jacq.* Inga, *W* Pithecolobium, *Benth.* C. tubulosa, *Benth.* !—A lofty tree; leaflets 3‴–8‴, peduncles 5″–2″, pedicles 2‴–1‴ long; corolla yellowish, 6‴ long; stamens light-crimson, nearly 2″ long; legume 8″–4″ long, 8‴–5‴ broad, pulpy within: valves flat.—HAB. Naturalized in Jamaica !, *Al.*, common in salt-ponds, ("the seeds formerly having been brought over from the continent by cattle;") S. Lucia !; [Nicaragua !, Venezuela !, Brazil !].

88. ENTEROLOBIUM, *Mart.*

Flowers of *Calliandra. Legume* broad, circinate, with the insertion in the middle of the

circle, compressed, tumid at the large seeds, coriaceous, indehiscent, pulpy, and with spurious dissepiments within.—Unarmed trees; leaves bipinnate; flowers subsessile, greenish, in peduncled heads.

250. **E. cyclocarpum,** *Gr.* Glabrous; pinnæ 4–9-jugal: leaflets 20–30-jugal, unequal-sided, oblong, pointed, glaucescent beneath: petiole bearing glands between the lowest and uppermost pinnæ; calyx puberulous, more than half as long as the corolla; stamens ∞, connected at the base; *legume* repand, *forming a complete circle,* the rounded top touching the rounded base.—*Jacq. Fragm. t.* 34. *f.* 1: *the legume.*—Mimosa, *Jacq.* Inga, *W. Macf.!* Pithecolobium, *Benth.*—The legume of the continental *C. Timbouva,* Mart., forms one-half or two-thirds of a circle, the basilar sinus being open.—A lofty tree; leaflets 6‴, peduncles 1½″ long; flower-heads (the stamens excluded) 6‴ diam.; stamens white; legume 1½″–1¾″ broad, with the basilar sinus closed (the whole fruit consequently 3″–4″ diam.), dark-brown, polished.—Hab. Jamaica!, *Macf., M'Nab, Pd.,* near Spanish Town; [Venezuela].

89. PITHECOLOBIUM, *Mart.*

Corolla 5(–6)-dentate. *Stamens* ∞, monadelphous. *Legume* cochleate, or spirally twisted, bivalved.—Woody plants; leaves *bipinnate;* flowers *in heads or spikes.*

Sect. 1. Unguis-cati.—*Legume cochleate, with the valves often at length twisted: seeds semi-immersed into a fleshy arillus.*—Petioles bearing glands between the pinnæ.

251. **P. unguis-cati,** *Benth.* Armed with minute, spinescent stipules (or unarmed), glabrous; *pinnæ* 1-*jugal: leaflets* 1-*jugal,* obliquely obovate, or oblong, blunt; *flowers* sessile, *in* peduncled, racemose *heads;* legume circinate, flat-compressed, broadly linear, glabrous, forming somewhat more than a single gyrus.—*Plum. Ed. Burm. t.* 4; *Desc. Fl.* 1. *t.* 11.—Mimosa, *L.* Inga, *W.* J. guadalupensis, *Desv.: the unarmed state.* J. leucantha, *Prl.*—A shrub, 10′ high; leaflets variable, 2″–1″ long; flowers greenish-yellow, usually puberulous, legume red, 4‴–5‴ broad.

α. Leaflets obovate or obovate-roundish; stamens yellow or slightly purpurascent.

β. forfex, Kth. Leaflets oblong or oblong-lanceolate; stamens rosy.—*Kth. Mimos. t.* 16.

Hab. Bahamas!, *Swains;* Jamaica!, *Pd.,* common in thickets, but said to be introduced (*Macf.*); Antigua!, *Wullschl.;* S. Lucia!, *Anders.;* S. Vincent!, *Guild.;* Trinidad!, *Cr.* (*β*); [Florida!, Venezuela!].

252 **P. oblongum,** *Benth.* Armed with stipular spines, glabrous; *pinnæ* 1-*jugal: leaflets* 1-*jugal,* oval-oblong or obliquely oval, blunt; *flowers* sessile, *in* short, peduncled, racemose *spikes,* puberulous; legume circinate, flat-compressed, broadly-linear, subsinuate, glabrous, forming more than a single gyrus: valves at length twisted.—Leaflets 2″–1″ long; spikes lax, oblong, 4‴–6‴ long; legume 4‴ broad.—Hab. Trinidad!, *Cr.,* at Chacachacarro; [Panama!, New Granada].

253. **P. trapezifolium,** *Benth.!* Unarmed; branchlets and petioles rusty-pubescent, or glabrate; *pinnæ* 2–4-*jugal: leaflets* 2–8-*jugal, rhomboid,* shining above, glabrate beneath; flowers sessile, in peduncled heads or short spikes, rusty-pubescent; "legume broad-linear, glabrate, cochleate."—Mimosa, *V.* Inga, *DC.*—Leaflets, 1″ long, 8‴ broad, or the inferior smaller.—Hab. Trinidad (*Benth.*); [Guiana!, Pará!].

Sect. 2. Gyrolobium.—*Legume spirally twisted: seeds devoid of an arillus.*—Unarmed plants; petioles bearing glands between the pinnæ.

254. **P. micradenium,** *Benth.!* Branchlets and petioles rusty-pubescent; *pinnæ* 4–8-*jugal: leaflets* 3–12-*jugal, rhomboid,* glabrous or glabrescent beneath; flowers subsessile, in long-peduncled heads or short spikes; *legume flat-compressed, oblong-linear,* glabrate, red, forming 3–5 contiguous windings.—T. Brongniartii, *Walp.!*—A large tree; leaflets 6‴–10‴ long, 3‴–5‴ broad; legume 6‴ broad.—Hab. Jamaica!, *Al.;* Dominica!, *Imr.;* [Guadeloupe!, in mountain woods].

255. **P. filicifolium,** *Benth.!* Branchlets and petioles rusty-pubescent; *pinnæ* 8–16-*jugal: leaflets* 20–30-*jugal, oblong-lanceolate or lanceolate,* obliquely tapering into the bluntish point, broadest at the base, glabrescent; flowers in long-peduncled heads; *legume*

subcylindrical, moniliform-linear, rusty-velvety, forming several distant windings.—*Sl. t.* 182. *f.* 1, 2.—Mimosa, *Lam.* M. arborea, *Sw.* Acacia, *W., Macf.*—A large tree, of which, from the colour of the wood, a white and a red variety is distinguished in the country (*March*); leaflets 3‴–4‴ long; flowers whitish; legume 8″–4″ long, 6‴–4‴ diam., red within: seeds ovoid, black, 8‴ long.—HAB. Jamaica!, *Al., Pd., Dist., March,* common in mountain woods; [Xalapa!].

90. INGA, *W., Mart.*

Corolla tubular, 5–4(–2)-dentate. *Stamens* ∞, monadelphous. *Legume* indehiscent or irregularly bursting, thickish or enlarged on the margins, compressed or subprismatical: seeds enclosed within pulp.—Unarmed, woody plants; leaves *pinnate, bearing usually glands between the pairs: leaflets large;* flowers *in heads, umbels, spikes, or racemes.*

Sect. 1. INGASTRUM.—*Legume compressed.*

* *Flowers in umbels.*

256. **I. heterophylla,** *W.* Glabrous; *leaflets* 1–4-*jugal,* elliptical or ovate-lanceolate, abruptly acuminate, shining: *petiole naked:* glands small, cylindrical; umbels shortly peduncled: *pedicels as long as the glabrous flowers;* calyx minute; staminal-tube long-exserted; legume glabrous, oblong, flat-compressed.—I. protracta, *Steud.!*—Leaflets 1″–3″ long, black when dry; corolla 3‴ long; legume 4″ long, 1″ broad: margins slightly thickened.—HAB. Trinidad!, *Cr.,* in mountain woods; [Guiana!, Pará!].

** *Flowers in elongated spikes or spiciform racemes.*

257. **I. laurina,** *W., Benth.!* Glabrous; leaflets 2–1-jugal, elliptical or elliptical-oblong, with a bluntish point, shining: *petiole naked:* glands minute, scutellate; flowers spreading, in elongated, spiciform racemes: *pedicels very short,* shorter than the calyx; *corolla glabrous,* infundibuliform, four times as long as the calyx, equalling the staminal tube; legume glabrous, oblong, flat-compressed, somewhat tumid at the seeds.—*Jacq. Amer. Pict. t.* 247.—Mimosa, *Sw.* M. fagifolia, *Jacq.:* erroneously quoted as I. marginata, *W.*—A large tree; leaflets 4″–3″ long, inferior smaller; racemes 2″–3″ long; corolla white, 3‴ long; legume 3″–2″ (–5″) long, 10‴–12‴ broad.—HAB. S. Kitts!, Antigua!, *Wullschl.;* Dominica!, *Imr.;* S. Lucia!, *Anders.;* Barbadoes (*L.*); [S. Thomas!, Guadeloupe!, in moist woods].

258. **I. martinicensis,** *Prl.* Branchlets and peduncles rusty-puberulous; leaflets 2–3-jugal, elliptical-oblong or oblong, bluntish, shining-glabrous or glabrate beneath: *petiole naked or margined below the top:* glands minute, scutellate; flowers subsessile, in elongated spikes; *corolla strigose,* twice as long as the puberulous calyx, including the staminal tube; legume . . . .—Mimosa coruscans, *Sieb Mart.* 324; *Trin.* 120.—Nearly allied to the preceding. My description refers to Imray's plant. The synonyms and other localities want confirmation by new comparison. Leaflets 5″–2″ long, narrower than in the preceding, black when dry; spikes 1″–2″, corolla 3‴ long.—HAB. Dominica!, *Imr.;* Trinidad!, *Lockh., Sieb.;* [Martinique!; Veraguas!, Venezuela].

*** *Flowers in compact, ovate spikes.*

259. **I. setifera,** *DC., Benth.!* *Rusty-puberulous,* scabrous; leaflets 2-jugal, elliptical, pointleted, often shining, and at length glabrate with scattered hairs: *petiole winged:* glands large, scutellate; flowers sessile, in short, ovate-oblong spikes: *bracts* linear, *deciduous; corolla strigose,* twice as long as the puberulous, striate calyx, including the staminal tube; "legume flat-compressed, glabrate: margins prominent."—I. versicolor, *Spruce!* I. nitida, *W.,* is perhaps the glabrate form.—Leaflets 6″–3″ long, inferior smaller: primary veins about 12-jugal, prominulous beneath; spikes 4‴–6‴ long; corolla yellow, 6‴ long.—HAB. Trinidad!, *Cr.;* [Guiana, equatorial Brazil!].

260. **I. acuminata,** *Benth.!* *Glabrous;* leaflets 2–3-jugal, elliptical-lanceolate, acuminate: *petiole winged:* glands minute, scutellate; flowers sessile, in ovate-globose heads: *bracts* linear, *persistent; corolla strigose,* twice or half as long again as the striate, glabrescent calyx, including the staminal tube; legume . . . .—Leaflets 5″–2″ long, narrower than in the preceding; flowers approximate; corolla 6‴ long.—HAB. Trinidad!, *Lockh.*

Of Willdenow's species, *I. punctata* and *splendens* are to be compared with *I. martinicensis*, Prl.; *I. quassiifolia* with *I. acuminata;* but *I. alba*, W., of Guiana, is a very distinct species, having compact spikes, a naked petiole, and a small glabrous corolla, twice or thrice exceeded by the staminal tube. Its synonyms are *Mimosa alba*, Sw.!, and *I. Bourgoni*, DC., Benth.!

Sect. 2. EUINGA.—*Legume 4-costate-quadrangular or subcylindrical.*

261. **I. vera,** *W.* Scabrous with minute down, or glabrescent; leaflets 4–5-jugal, elliptical-lanceolate, shortly acuminate: *petiole winged:* glands scutellate; *flowers* in short, few-flowered spikes, *sessile*, or the inferior shortly pedicellate: pedicels much shorter than the calyx; *corolla sericeous-lanuginose, half as long again as the* tomentose not striate *calyx*, including the staminal tube; legume tomentose, 4-costate, subfalcate.—*Sl. t.* 183. *f.* 1; *Desc. Fl.* 5. *t.* 316.—Mimosa Inga, *L.* (*ex cit. Sl.*).—A tree; leaflets 4″–2″ long; peduncles rusty-pubescent, calyx 4‴–6‴, corolla 6‴–8‴ long, white; legume 6″ long, 6‴–12‴ diam.—HAB. Jamaica!, all coll., common on river-banks in the eastern districts; Trinidad!, *Cr.*, common.

262. **I. ingoides,** *W.* Scabrous with minute down, or glabrescent; leaflets 4–3-jugal, elliptical or elliptical-lanceolate, pointed: *petiole winged:* glands scutellate; flowers in short, few-flowered racemes: *pedicels as long as the calyx; corolla sericeous-lanuginose,* twice as long as the tomentose, campanulate, not striate calyx, including the staminal tube; legume tomentose, 4-costate, falcate.—A tree; leaflets 4″–2″ long; peduncles rusty-tomentose; calyx 2‴–3‴, corolla 5‴–6‴ long; legume 4″–6″ long.—HAB. Jamaica (*Benth.*); Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Guiana!].

LXIV. CONNARACEÆ.

Character of *Leguminosæ*, but carpels 1–5, distinct, and ovules atropous, rarely hemianatropous.

The seeds are oily, and the arillus in some species of *Rourea* is eatable.

1. CONNARUS, *L.*

Calyx imbricative. *Petals* 5. *Stamens* 10, alternately unequal, united at the base. *Carpel* single: ovules 2, collateral, ascending, atropous. *Legume* stipitate, follicular: seed exalbuminous, arillate: radicle superior.—Woody plants; leaves *impari-pinnate;* racemes or spikes *compound.*

1. **C. guianensis,** *Lamb.* Branchlets and panicles rusty-puberulous; *leaflets* 3, elliptical-oblong, pointleted, bluntish at the top, *acute at the base*, glabrous: veins prominulous beneath; panicles axillary, exceeding the petiole: *flowers pedicellate*, petals oblong, twice as long as the calyx, equalling the longer stamens; follicle ovoid, longitudinally striate, puberulous, at length glabrate, shortly and abruptly stipitate, with a deciduous, terminal mucro: stalk included within the calyx.—C. africanus, *Mey. Esseq.!* (*non Lam.*). Omphalobium Lambertii, *DC.*—A tree; leaflets 5″–3″ long, petiolulate: prominent veins 6–8 on each side of the midrib; pedicels 2‴–1‴, follicle 8‴, its stalk 1‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Guiana!].

2. **C. grandifolius,** *Planch.!* Branchlets and panicles rusty-tomentose; *leaflets* 3–5, oval or oval-oblong, blunt, *rounded at the base*, glabrous: veins prominulous beneath; panicles large, terminal and axillary: *flowers subsessile:* petals oblong, twice as long as the rusty-pubescent calyx; follicle . . . .—A high, scandent shrub; leaflets 6″–5″ long, rusty beneath, petiolulate: primary veins 10–12 on each side of the midrib.—HAB. Dominica!, *Imr.;* [Guadeloupe!, in moist woods].

2. ROUREA, *Aubl.*

Character of *Connarus*, but carpels 5, 4 of which are usually abortive, and follicle sessile.

3. **R. glabra,** *Kth.* *Glabrous* or glabrescent; leaflets 5–3 (7–1), oblong, with a bluntish point, rounded at the base: veins delicate, prominulous on both sides; compound racemes equalling the leaves: *pedicels slender, nearly as long as the flowers;* petals oblong, twice as long as the calyx; follicle spathulate-oblong, glabrous, 3–4 times as long as the calyx.—Con-

narus, *DC.* R. oblongifolia, *Hook. Arn.!* R. paucifoliolata, *Planch.!*—A shrub, somewhat twining; leaflets 4″–2″, pedicels 3‴–2‴, follicle 6‴–8‴ long.—HAB. Jamaica!, *Macf.*, *Dist.*, *March*; S. Lucia!, *Anders.*; [Acapulco!, Panama!, Venezuela, Ecuador!].

4. **R. frutescens,** *Aubl.* Branchlets and panicles *rusty-pubescent;* leaflets 7–9, lanceolate-oblong or oblong, glabrous above, puberulous or pubescent beneath: veins slightly prominulous on both sides; panicles axillary, contracted, exceeded by the leaves: *pedicels* thickish, *as long as the tomentose calyx;* petals oblong, twice as long as the calyx; follicle oval-oblong, tomentose, at length incurved.—*Aubl. t.* 187.—A scandent shrub; leaflets 3″–1″, pedicels 1‴ long. The Trinidad specimen, which is in flower, has the leaflets puberulous beneath, pointed, and tapering towards the base; the Panama plant, from which the description of the fruit is taken, has the leaflets rounded at the base, either pointed or blunt, densely pubescent beneath.—HAB. Trinidad!, *Cr.*; [Panama!, Guiana].

LXV. CHRYSOBALANEÆ.

Stamens perigynous. *Carpel* mostly solitary, free: style suprabasilar: ovules 2, collateral, basilar, anatropous. *Fruit* drupaceous. *Seeds* exalbuminous.—Woody plants; leaves *simple, entire, stipulate.*

The drupes, though astringent, and the oily seeds, are in some cases eatable. Thus a conserve is prepared from the Cocoa-plum (*Chrysobalanus*), while its leaves and roots are used as astringents. The bark of *Hirtella silicea* is so rich in silex, that it is employed by the Indians in making pottery (*Cr.*). *Licania hypoleuca* affords timber (*Bois Diable* in Dominica).

1. CHRYSOBALANUS, *L.*

Calyx campanulate, 5-fid. *Petals* 5. *Stamens* unilateral, about 20 fertile. *Gynophore* very short, adnate to the calyx-tube. *Pericarp* crustaceous-fleshy, at length dry and splitting into valves.—Leaves *coriaceous, glabrous;* cymes *corymbiform.*

1. **C. Icaco,** *L.* Leaves oval or oval-roundish, rounded or bluntish at the base; cymes axillary, pubescent, exceeded by the leaves; stamens villous; *drupe oval.*—*Jacq. Amer. Pict. t.* 141.—A shrub, 12′ high; flowers white; drupe obtusely costate, size of a plum, variable in colour, and fleshy or dry.—HAB. Bahamas!; Jamaica!, *March;* S. Kitts!, Dominica!, S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Venezuela!, Brazil!; trop. Africa!].

2. **C. pellocarpus,** *Mey.!* Leaves obovate or obovate-roundish, pointed or bluntish at the base; cymes axillary, pubescent, exceeded by the leaves; stamens villous; *drupe obovate, pointed at the base.*—*Br. Jam. t.* 17. *f.* 1, 2.—C. Icaco, *β*, *DC.*—A shrub, 6′ high; drupes rather acutely costate, smaller than in the preceding, 8‴ long: pericarp thin.—HAB. Jamaica!, *Wullschl.*, *March*, in moist woods; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*; [Guiana!].

2. HIRTELLA, *L.*

Calyx 5-fid. *Petals* 5. *Stamens* unilateral, long-exserted, 3–8. *Gynophore* adnate to the calyx-tube. *Pericarp* of *Chrysobalanus.*—Racemes *simple or with cymose branches.*

3. **H. racemosa,** *Lam.* Leaves oblong or oblong-lanceolate, acuminate, slightly scabrous, glabrescent; *racemes simple, eglandular,* puberulous: *bracts* minute, *subulate;* calyx-tube turbinate: lobes ovate; stamens 5–3 (–6); drupe spathulate-oblong, glabrous.—*Aubl. t.* 98.—H. americana, *L. partim, Aubl., Sw.* (*non Jacq.*).—A tree, variable in the down, the leaves, and the number of fertile stamens; flowers pale-blue, long-pedicellate.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Honduras! to Ecuador!, Guiana! to Brazil!].

4. **H. silicea,** *Gr.* (*n. sp.*). Leaves oblong, acuminate, minutely cordate at the base, scabrous, glabrescent, hispid on the midrib beneath; *racemes simple, hispid: pedicels biglanduliferous* near the base: *bracts linear-filiform;* calyx-tube campanulate: lobes ovate, bluntish; stamens 6–4; drupe oblong, glabrous.—*Crueger's Cauto* (*Bot. Zeit.* 15. *p.* 281).—A tree; branchlets and petioles hirsute with short bristles; leaves 8″–6″ long, 2½″–1″ broad, chartaceous, archnerved, veiny beneath: petiole 1‴–2‴ long; racemes lax, peduncled, 4″–5″ long, pale-rusty with dense spreading bristles: pedicels 3‴, bracts 2‴–1‴ long: glands

stipitate; flowers 4''' diam.; drupes 8''' long, abruptly contracted at the base.—HAB. Trinidad!, *Cr.*, at Tocuche, S. Anns.

5. **H. triandra,** *Sw.* Leaves oblong, pointleted, slightly scabrous, glabrescent; *racemes compound*, eglandular, pubescent: *branches racemuliform:* bracts subulate; calyx-tube turbinate: lobes ovate; fertile stamens 3; drupe obovate-oblong, villous.—*Jacq. Amer. Pict. t.* 11.—H. americana, *L. partim, Jacq.* H. paniculata, *Lam.* (*non Sw.*).—A small tree; flowers white, as long as the pedicels.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, uncommon in mountain woods; Dominica!, *Imr.*; Trinidad!, *Lockh.*, *Cr.*; [Cuba! to Brazil!].

6. **H. paniculata,** *Sw.*, *Mey.!* Leaves elliptical-oblong or oblong, mucronate or bluntish, slightly scabrous, shining above, hairy on the nerves beneath; *racemes compound*, eglandular, *hispid: branches* sub-3-flowered, *as long as the ovate-lanceolate bracts;* calyx-tube obliquely campanulate: lobes elliptical; stamens 5–6: "drupe obovate, pubescent."—*Vahl, Symb. t.* 31.—H. hirsuta, *Lam.* H. bracteosa, *Steud.!*—A shrub; bracts and bracteoles persistent; filaments purple.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Pd.*, *Lockh.*, *Cr.*, in savannahs; [Guiana!].

7. **H. pendula,** *Sol.* "Leaves oblong-lanceolate, acuminate, cordate at the base, scabrous-pubescent beneath; racemes compound, rusty-tomentose: special cymes divaricate: bracts minute; calyx-tube globose; stamens 5–3."—HAB. S. Lucia (*Zuccar.*).

3. LICANIA, *Aubl.*

(Moquilea, *Aubl.*, *non Mart. Zucc.*)

Calyx 5–4-fid or 5–4-dentate. *Petals* 5–0. *Stamens* 3–∞. *Ovary* sessile, inserted into the base of the calyx-tube. *Pericarp* drupaceous.—Flower-clusters *racemose or paniculate.*

Sect. 1. EULICANIA.—*Calyx ovate-globose*, 5-*dentate. Petals* 0. *Stamens unilateral, included, fertile* 3–5.

8. **L. hypoleuca,** *Benth. Leaves* ovate, cuspidate, glabrous, *white beneath* (the ribs excepted); *flower-clusters peduncled*, in a divaricate, pubescent panicle: *flowers shortly pedicellate;* calyx subglobose; stamens 3(–2–4); drupe obovate-oblong, tomentose.—*Bot. Sulph. t.* 32: the panicle laxer than in our specimens.—A tree; leaves 6''–4'', petioles 3'''–6''' long; panicle 2''–4'' diam.: peduncles 2'''–3''' long; pedicels 2–5, alternate, ½''' long; calyx 1''' diam.; drupe 6''' long:—HAB. Dominica!, *Imr.* Trinidad!, *Pd.*, *Cr.*, in the mountains of S. Anns; [Veraguas, Panama].

Sect. 2. MOQUILEA.—*Calyx* 5-*fid. Petals* 5. *Stamens in a complete whorl, fertile* ∞–15.

9. **L. pyrifolia,** *Gr.* (*n. sp.*). Leaves roundish-elliptical or elliptical, mucronate, long-petioled, shining-glabrous above, glabrate beneath; racemes compound, in a spreading, white-pubescent panicle: *flowers* fascicled or solitary, *as long as their pedicel;* calyx white-tomentose, subglobose, as long as the clawed petals; fertile stamens ∞, with the style shortly exserted.—Moquileæ *sp.*, *H. Bot. Trin. Cr.!* (*Bot. Zeit.* 15. *p.* 303.)—Allied to *L. leucosepala*, Gr., of Guadeloupe, distinguished by broader and smaller leaves, long petioles, and a larger number of fertile stamens.—A tree; branchlets and panicles whitish-pubescent; leaves coriaceous, 2½''–2'' long, 1½'' broad, shortly contracted at the base, polished above, mealy-puberulous beneath, at length concolor: petiole 6''' long, slightly 2-glandular; panicle 6'' long, 4'' broad: branches horizontal, distant; calyx 2''' diam.; petal-limb orbicular, as long as the claw; stamens 20–30, mostly fertile; ovary and interior side of the calyx densely lanuginose.—HAB. Trinidad!, *Pd.*

4. PARINARI, *Aubl.*

Calyx 5-fid. *Petals* 5 (–4). *Stamens* 7–∞: their insertion-line furnished with long, silky, reversed hairs. *Ovary* 2-celled, with a spurious, longitudinal dissepiment: gynophore adnate to the calyx-tube. *Drupe* dry, 2-celled: cells 1-seeded.—Trees; leaves *penninerved, veiny beneath;* flowers *cymose: cymes often racemose-paniculate.*

10. **P. campestre,** *Aubl.* Leaves ovate, shortly acuminate, cordate at the base, rugulose and glabrate above, white-tomentose and strongly veined beneath: petiole very short, eglan-

dular, much exceeded by the ovate-lanceolate stipules; cymes corymbiform; "fertile stamens 7–8, unilateral, and as many sterile ones on the opposite side;" drupe ovoid, contracted at the base, glabrous (15‴ long).—*Aubl. t.* 206.—Leaves 2″–1½″ long, 15‴–8‴ broad; stipules foliaceous, 6‴ long, or longer, deciduous; drupe-cells filled with wool.—Hab. Trinidad!, *Pd.*, *Cr.*, at Arima; [Guiana].

LXVI. ROSACEÆ.

Stamens perigynous. *Carpels* distinct: ovules sutural, anatropous. *Seeds* exalbuminous. —Leaves *stipulate.*

The amygdalin of the kernels and the bark in the West Indian *Pruni* is employed to impregnate liquors with a flavour of hydrocyanic acid. The fruits of the Jamaica *Rubi* are eaten. *Prunus occidentalis* is an excellent timber-tree.

1. PRUNUS, *L.*

Calyx 5(–4)-fid. *Petals* 5 (–4). *Stamens* ∞–10. *Carpid* 1: ovules 2, collateral. *Drupe* 1-seeded: putamen smooth.—Trees *or* shrubs; leaves *in the West Indian species evergreen, glabrous, quite entire, conduplicate in bud, and flowers racemose.*

1. **P. occidentalis,** *Sw.* Leaves oblong or ovate-oblong, rounded at the base, bluntish: *two glandular spots at the base itself* beneath; racemes lateral; stamens ∞–20; *drupe ovoid,* slightly apiculate, purple.—Cerasus, *Lois.*—A high tree; leaves 6″–4″ long, 2½″–2″ broad; racemes puberulous or glabrous; drupe 10‴ long, 6‴ broad.—Hab. Jamaica!, *Macf.*, *Pd.*, *Marsh*, common in woods; S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Cuba!, Panama!].

2. **P. pleuradenia,** *Gr.* Leaves elliptical or elliptical-oblong, apiculate, acute at the base, shining above: *two glandular spots juxtamarginal* beneath, a little *distant from the base;* racemes axillary; stamens 20; "drupe globose, truncate at the top, nearly black." —*Bot. Mag. t.* 3141.—Cerasus sphærocarpa, *Hook.* (*non Lois.*). Prunus, *Schlecht.* (*non Sw.*). C. reflexa, *Gardn.*—Leaves 4″–3″ long, 2″–1¼″ broad: glands 1½‴ distant from their base; "drupe 6‴ diam."—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Haiti; Brazil!].

3. **P. sphærocarpa,** *Sw.* *Leaves* elliptical or elliptical-oblong, with a bluntish point, rounded at the base, shining above, *eglandular;* racemes axillary; stamens 10–20; *drupe globose,* submucronate, purple.—*Catesb. Carol.* 2. *t.* 94. *Sl. t.* 193. *f.* 1.—Cerasus, *Lois.*; Celastrus myrtifolius jamaicensis, *L.*—A low tree; leaves 3½″–2½″ long, 2″–1″ broad; drupes 4‴ diam.—Hab. Bahamas (*Catesb.*); Jamaica!, *Macf.*, *Pd.*, *Al.*, *March*, common in the lower mountains; [Haiti; Brazil!].

2*. ROSA, *L.*

Calyx-tube at length baccate, including numerous achenia. *Petals* 5. *Stamens* ∞.

4*. **R. lævigata,** *Mich.* Glabrous; prickles falcate; leaflets 3 (–5), coriaceous, shining above, with simple serratures: stipules linear-setaceous, shortly adnate; flowers solitary, ebracteate; calyx-tube ovate, muricate, with long setaceous prickles: lobes entire; disc thickish; carpids sessile: styles distinct.—*Redout. Ros.* 2. *t.* 39. *Lindl. Ros. t.* 16, 17.—R. sinica, *Ait.* R. nivea, *DC.* R. hystrix, *Lindl.*—Flowers large, white.—Hab. Naturalized in Jamaica!, *Al.*, *Wullschl.*; [introduced from China and Japan].

3. RUBUS, *L.*

Calyx 5-partite. *Petals* 5. *Stamens* ∞. *Carpids* ∞–several, drupaceous, separating from the conical-cylindrical torus.—Leaves *in the West Indian species palmate:* leaflets *penninerved.*

5. **R. jamaicensis,** *Sw.* Shrubby, trailing; prickles recurved; *leaflets* 5–3, elliptical-oblong, pointed, pubescent above, *hoary-tomentose beneath,* unequally serrate: pri-

mary veins approximate: petiole long, with the under side of the midrib prickly; racemes compound, villous; petals obovate, as long as the calyx-segments; fruit ovoid-roundish, twice as large as the appressed calyx: drupes numerous, deciduous, devoid of bloom.—*Sl. t.* 213. *f.* 1.—R. ferrugineus, *Wickstr.?*—Fruit 4‴ diam., purple.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, *Wullschl.*, common in the mountains.

6. **R. alpinus,** *Macf.* Shrubby, trailing, glabrescent; prickles recurved; *leaflets* 3, elliptical, pointleted, *concolor-glabrous*, unequally and sharply serrate: primary veins approximate: petioles long, with the under side of the midrib prickly; pedicels long, fascicled, in compound racemes; calyx pubescent, appressed, half as long as the ovate, rounded fruit; drupes numerous, deciduous, devoid of bloom.—The unequal, spreading, approximate leaflet-serratures distinguish this species at once from the similar *R. fagifolius*, Cham. Schlecht., of Mexico. Fruit 3‴ long, $2\frac{1}{2}$‴ broad, dark-purple.—HAB. Jamaica!, *Macf.*, *Pd.*, in the Blue Mountains, above 3000′.

4*. FRAGARIA, *L.*

Calyx biserial, 10-fid. *Petals* 5. *Stamens* ∞. *Achenia* ∞, adnate to the baccate torus. —Herbs; leaves 3-*foliolate.*

7*. **F. vesca,** *L.* Petioles pilose; peduncles pubescent; calyx spreading from the fruit; achenia superficial on the conical or hemispherical torus.—HAB. Naturalized in the Blue Mountains of Jamaica!, *Al.*; [introduced from Europe].

LXVII. MYRTACEÆ.

Stamens inserted into the valvate calyx, mostly indefinite. *Ovary* inferior, compound, paracarpous in the beginning, at length usually plurilocular: ovules ∞: style simple. *Seeds* usually few, mostly exalbuminous.—Leaves *simple, entire, mostly exstipulate, with marginal nerves, or juxtamarginal vein-arches.* Stems *shrubby or arboreous in the West Indian species.*

The *Myrtaceæ* abound in fragrant, volatile oils: hence the leaves are usually pellucid-dotted. The flower-buds of *Caryophyllus* (or cloves), and the unripe berries of *Pimenta* (Pimento-pepper, or all-spice), are renowned spices, the former of the East, the latter of the West Indies. The fruits of *Psidium* (Guava), *Jambosa* (Rose-apple), and *Syzygium* (Jambolin), are eatable. The astringent bark of *Punica* is an anthelmintic drug. Timber-trees are *Myrcia ferruginea, Eugenia æruginea* and *coffeifolia, Psidium montanum.* A species of *Lecythis,* affording timber, is stated to grow in Trinidad, but has not been sent.

TRIBE I. *MYRTEÆ.—Stamens mostly* ∞, *distinct. Pericarp baccate.*—Leaves opposite (rarely whorled), quite entire.

1. CALYPTRANTHES, *Sw.*

Calyx closed, circumscissile about the middle, at the insertion-line, and much above the ovary. *Petals* 0 (or 2–5, abortive). *Berry* 1–few-seeded. *Testa* cartilaginous. *Cotyledons* thickish-foliaceous, corrugate or contortuplicate: radicle nearly as long, inflexed.—Flowers *cymose, clustered, or single.*

* *Branchlets cylindrical.*

1. **C. Chytraculia,** *Sw.!* Branchlets rusty-villous or glabrate, cylindrical; leaves elliptical or elliptical-oblong, with a bluntish point, glabrous or glabrate, pellucid-dotted: veins running into arches; *cymes rusty-tomentose, compound,* divaricate, peduncled, nearly as high as broad, 5(–3)-chotomous, interruptedly and shortly spicate at the end of the branches: *flowers sessile,* ternate; *calyx obovate, mucronate, tomentose;* petals 0; berry globose.—*Br. Jam. t.* 37. *f.* 2: *analyt.*—Myrtus, *L.*—A low tree, 12′ high; leaves variable, $3\frac{1}{2}$″–$1\frac{1}{2}$″: calyx $1\frac{1}{2}$‴ long.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, *March,* common in limestone-districts; [Cuba!].

2. **C. Syzygium,** *Sw.!* Branchlets glabrous, cylindrical; leaves elliptical, bluntish,

glabrous, with minute pellucid dots, or at length opaque: veins delicate, running into arches; *cymes glabrous*, peduncled, once to thrice 3-fid: *flowers pedicellate, single; calyx ovoid, mucronate, glabrous;* petals 0; "berry subglobose."—*Br. Jam. t.* 7. *f.* 2.—Myrtus, *L.* C. rigida, *Macf.!* (*non Sw.*).—A shrub; leaves 2½″–2″, calyx 2‴ long; cymes usually shorter than the leaves, a little exserted in Swartz's specimens: the pedicels, being 2‴–3‴ long, give an excellent character.—HAB. Jamaica!, *Sw.*, *Al.*, on limestone, from the seashore to the interior districts; [Haiti].

3. **C. sericea,** *Gr.* (*n. sp.*). Branchlets pubescent, cylindrical; leaves oblong-lanceolate, acuminate, protracted into a narrow bluntish point, shining-glabrous above, sericeous beneath, obsoletely pellucid-dotted, at length opaque: veins approximate, delicate, joined near the margin; *cymes rusty-sericeous, fascicled,* subsessile or shortly peduncled, simple, reduced to bracteolate clusters, equalling or shortly exceeding the petiole; *calyx ovoid-subglobose,* obsoletely mucronulate, *rusty-pubescent;* petals 0; berry globose.—A tree, affording walking-sticks (called *Debasse: Cr.*): branchlets sericeous; leaves 6″–3″ long, 1½″–1″ broad: down ferrugineous or hoary, persistent: petiole 3‴ long; bracteoles linear-oblong; calyx ¾‴ long; berry 3‴ diam., 1-seeded.—HAB. Dominica!, *Imr.;* Trinidad!, *Cr.*, Savonetta woods.

** *Branchlets 2-edged, bearing interpetiolar points.*

4. **C. pallens,** *Gr.* Branchlets glabrous, slightly 2-edged, with an interpetiolar point; leaves elliptical or elliptical-lanceolate, pointleted, bluntish at the top, sericeous beneath, (or at length glabrate,) nearly devoid of pellucid dots: veins delicate, joined near the margin; *cymes rusty-sericeous, compound,* spreading, trichotomous, nearly as high as broad, peduncled: flowers sessile, ternate; *calyx obovoid-globose,* rounded at the blunt top, *sericeous;* petals 0; berry globose.—C. Chytraculia, δ grandiflora, *Berg.*—A shrub; leaves 2½″–1¼″, calyx 1‴ long.—HAB. Jamaica!, *Al.*, near Kingston; [Cuba!, Guadeloupe!].

5. **C. rigida,** *Sw.* Glabrous; branchlets 2-edged, bearing an interpetiolar point; leaves ovate-lanceolate, blunt, subacute at the petioled base, opaque: veins inconspicuous; *pedicels* 3 (–1), *as long as the flower,* spreading on the top of a lateral, usually elongated peduncle; calyx subglobose, minutely mucronate; petals 0; berry "subglobose."—A low tree; 12′–15′ high: branchlets dichotomous; leaves 10‴–12‴ long, 5‴–4‴ broad, rigid-chartaceous: petiole 1‴ long; peduncles opposite, inserted 1‴ above the axils, 8‴ (–2‴) long; calyx 1‴ diam.—HAB. Jamaica (*Sw.*), on the highest peaks, Catherine Hill, S. Andrews; [Cuba!].

6. **C. Wilsoni,** *Gr.* (*n. sp.*). Glabrous; branchlets flat-2-edged, with longitudinal wings, bearing an interpetiolar point, leaves elliptical, bluntish, acute at the subsessile, or shortly petioled base, pellucid-dotted: veins inconspicuous; *pedicels hair-shaped, much longer than the flower,* geminate or solitary in the axils; calyx ellipsoidal-linear, acuminate; petals 0; berry . . . .—Allied to *C. uniflora,* Spring, which is said to have opaque leaves and longer bracts.—A small tree; leaves 16‴–10‴ long, 8‴–5‴ broad, chartaceous; pedicels 8‴–4‴, calyx 1½‴ long, the latter scarcely ½‴ diam.—HAB. Jamaica!, *Wils.*, Eastern peak of John Crow Hill, near Bath, at 3000′ alt., very rare.

C. Tussaceana, Berg (*C. rigida,* Tuss. Fl. 3. t. 26), stated to grow in the hills of Jamaica, is unknown to me. From its rough figure it would exhibit the large leaves and clustered flowers of *C. Chytraculia,* the simple cymes of *C. Syzigyum,* and the calyx of *C. pallens.*

2. MARLIERIA, *Camb.*

Calyx closed, bursting above into irregular lobes. *Petals* 0–5. *Ovary* 2–3-celled: cells 2-ovulate. *Berry* crowned with the lacerate calyx-limb. *Embryo* of *Calyptranthes.*—Flowers *cymose.*

7. **M. elliptica,** *Gr.* (*n. sp.*). Branchlets rusty-tomentose; *leaves elliptical,* bluntly pointleted, opaque, shining-glabrous above, *rusty-pubescent and tomentose on the midrib beneath:* principal veins prominulous beneath, costate, joined near the margin by a continuous arch; cymes peduncled, rusty-tomentose, trichotomous, one-third as long as the leaves: flowers clustered, sessile; calyx ovoid, villous-tomentose: lobes 2–4, one larger; petals 0; berry globose, glabrate.—Leaves rigid, 4″–6″ long, 2″–3″ broad: petiole 3‴–4‴ long; calyx 1½‴ long; ovary 2-celled: cells 2-ovulate: berry "fragrant," 3‴ diam., 1–2-seeded: cotyledons contortuplicate.—HAB. Trinidad!, *Cr.*, at S. Anns.

3. MYRCIA, *DC.*

Calyx 5(–4)-lobed. *Petals* 5 (–2). *Ovary* 2–4-celled: cells 2-ovulate. *Berry* and *embryo* of *Calyptranthes*.—Cymes *usually exserted.*

Sect. 1. AULOMYRCIA.—*Calyx-tube produced beyond the ovary. Berry concave at the margined top.*

8. **M. coriacea,** *DC.* Branchlets rusty-pubescent or glabrescent; *leaves leathery, obovate* or oval, blunt or emarginate, glabrous, shortly petioled, usually opaque, with impressed dots, and shining above: veins joined near the revolute margin or inconspicuous; *peduncles* in the uppermost axils, *simple,* 9–3(–1)-flowered: pedicels spreading: the central flower pedicellate or subsessile; calyx 5-lobed: lobes rounded, sericeous inside; ovary 3-celled; berry globose, 3–6-seeded.—*Plum. Ed. Burm. t.* 208. *f.* 2.—A shrub, resembling *Anamomis* and *Pimenta acris,* with which latter it was confounded by Swartz, though habitually distinguished by short petioles, obsoletely veined leaves, and simple inflorescence. Leaves 1″–2½″ long, or uppermost smaller: petiole 1‴–2‴ long; flowers 4‴–5‴ diam.; berry 6‴ diam.; cotyledons thickish, much contortuplicate.

α. Swartziana. Branchlets and peduncles densely pubescent; leaves opaque; peduncles subsolitary, 3(–1)-flowered, exceeded by the leaves.—*Desc. Fl.* 2. *t.* 105.– Myrtus coriacea, *Sw.!:* the original specimen has a 5-lobed calyx, but a specimen of *Pimenta acris β* is added in his herbarium. Aulomyrcia, *Berg.* M. cotinifolia, *Poir.*

β. Jacquiniana. Branchlets glabrescent; leaves opaque: petiole 1‴ long; peduncles glabrous, approximate, 3–7-flowered, exceeding the leaves.—*Jacq. Coll.* 2. *t.* 5. *f.* 1.—Eugenia paniculata, *Jacq.* Aulomyrcia Jacquiniana, *Berg.*

γ. Imrayana. Branchlets adpressed-puberulous; leaves at length furnished with scattered, pellucid dots; peduncles glabrous, scattered, 9–5-flowered, nearly as long as the leaves, with the corymbiform cyme exserted.

HAB. Antigua!, *Nichols.*, *Wullschl.* (*α, β*); Dominica!, *Imr.* (*α, γ*); S. Lucia; [Haiti!, Martinique].

9. **M. multiflora,** *DC.* Branchlets glabrescent; *leaves chartaceous, ovate-lanceolate,* bluntish, glabrous, petioled, pellucid-dotted: veins joined near the margin, reticulated, prominulous on both sides; *panicles trichotomous,* lax, exserted: flowers pedicellate or the central ones sessile; calyx sericeous below, 5-lobed: lobes orbicular, sericeous inside; ovary 2-celled; berry "globose."—Eugenia, *Rich.* Aulomyrcia, *Berg.*—A shrub; leaves 1″–2″ long; flowers 2‴ diam.—HAB. Trinidad!, *Cr.*, at S. Anns; [Guiana].

Sect. 2. EUMYRCIA.—*Calyx-tube nearly as long as the ovary. Berry flat at the top within the persistent margin.*

* *Leaves reticulated-veiny.*

10. **M. splendens,** *DC.* Branchlets pubescent; *leaves chartaceous, ovate-lanceolate or ovate, protracted into a* narrow, bluntish *point,* glabrous, shining above, pellucid-dotted: veins joined near the margin, reticulated, prominulous on both sides; *panicles* trichotomous, *pubescent:* flowers pedicellate or the central ones sessile; calyx hoary-sericeous below, 5-lobed: lobes rounded; ovary 2-celled; *berry globose.*—*Jacq. Coll.* 2. *t.* 4.—Myrtus, *Sw.* Eugenia periplocifolia, *Jacq.* M. sororia, *DC.!:* a form with a long leaf-point. Berg distinguishes his *M. splendens* by oblong or obovate berries, but Forsström's West Indian specimens, agreeing with Swartz's *Myrtus splendens,* have exactly globose berries.—A low tree or shrub, 12′–15′ high, very variable in the leaves and as usually in their veins, 2″–3″ long, 8‴–1½″ broad; flowers 3‴–4‴ diam.; berries red, 4‴ diam.—HAB. Jamaica!, *Wright;* Dominica!, *Imr.;* S. Lucia; Trinidad!, *Sieb. Trin.* 111, *Lockh.*, *Cr.;* [Haiti, Portorico!, French islands!, *Sieb. Mart.* 138; New Granada!, Guiana!, Brazil!].

11. **M. divaricata,** *DC.* Branches glabrescent; *leaves leathery, elliptical-lanceolate or elliptical-oblong, pointleted,* with a narrow, bluntish point, glabrous, shining above, pellucid-dotted (or at length opaque): veins joined near the margin, reticulated, prominulous on both sides; *panicles* trichotomous, *glabrescent:* flowers pedicellate or the central ones sessile; calyx sericeous below, 5-lobed: lobes rounded; ovary 2-celled; *berry ovoid-oblong.*—*Plum. Ed. Burm. t.* 208. *f.* 1; *Kth. Nov. Gen. t.* 545.—Eugenia, *Lam.* E. paniculæ-

flora, *Steud.!* M. Kegeliana, *Berg!* M. Berberis, *DC.*, *Berg!* (*in Pl. Kegel.*). Myrtus polyantha, *Kth.*—A tree or shrub; leaves usually 4″–2½″ long, 1″–1½″ broad; flowers 3‴ diam.; berries dark-blue, 5‴–4‴ long, 3‴–2‴ broad.—HAB. Dominica!, *Imr.*; [Haiti, Martinique; Guiana!, New Granada!, Brazil!].

** *Principal leaf-veins costate, impressed above, prominent beneath: under surface minutely areolate.*

12. **M. ferruginea,** *DC.* Branchlets rusty-tomentose; *leaves* rigid, leathery, elliptical, elliptical-lanceolate, or elliptical-oblong, pointleted, usually with a very narrow point, shining-glabrous above, glabrate and *rusty-tomentose on the midrib* and the costate primary veins *beneath*, pellucid-dotted (or at length nearly opaque): veins joined by a juxtamarginal arch, tertiary ones immersed and forming a very minute network; *panicles rusty-tomentose,* trichotomous, from the uppermost axils: flowers clustered, subsessile; calyx rusty-tomentose, 5-lobed: lobes orbicular; ovary 2-celled; berry "globose."—Eugenia, *Poir.* E. deflexa, *Poir.* E. paniculata, *Sieb.! Mart.* 137. M. deflexa, *DC.* M. Humboldtiana, *DC.*: a large-leaved form.—A large tree; leaves very variable, usually 3½″–2″ long, sometimes 10″–12″ long: the costate veins immersed above, prominent beneath, 20–24 on each side of the midrib, alternating with more delicate ones; flowers 4‴ diam.—HAB. Dominica!, *Imr.*; Trinidad!, *Cr.*; [Haiti, Martinique!; Venezuela, Guiana].

4*. CARYOPHYLLUS, *L.*

Calyx-tube cylindrical, filled with tissue below: limb 4-partite. *Petals* 4, coherent, deciduous. *Ovary* 2-celled: cells multiovulate. *Berry* 1(–2)-seeded. *Cotyledons* semiovoid, sinuose, peltate, including partly the elongated, straight radicle.—Flowers *cymose.*

13*. **C. aromaticus,** *L.* Leaves leathery, elliptical-oblong, glabrous, shining above, long-petioled; cymes terminal, trichotomous: pedicels short, thickened.—*Desc. Fl.* 8. *t.* 566. —A low tree.—HAB. Naturalized in S. Vincent!, *Guild.*; [Martinique!, *Sieb. Mart.* 136; introduced from the East Indian islands].

5*. SYZYGIUM, *G.*

Calyx-tube turbinate, exceeding the ovary: limb repand or truncate. *Petals* 4–5, coherent-deciduous. *Ovary* 2-celled: cells multiovulate. *Berry* 1–few-seeded. *Cotyledons* semiglobose, distinct, peltate: radicle short, concealed by them.—Flowers *cymose.*

14*. **S. Jambolanum,** *DC.* Glabrous; leaves leathery, oval or obovate-oblong, long-petioled, devoid of pellucid dots; cymes lateral, trichotomous: flowers clustered; calyx-limb truncate.—A tree; leaves 4″–3″ long, rounded at the top in the West Indian form: petiole 10‴–6‴ long.—HAB. Naturalized in Jamaica!, *Al.*; Antigua!, *Wullschl.*; Trinidad; [introduced from the East Indies].

6*. JAMBOSA, *Rumph.*

Calyx-tube turbinate, filled with tissue below: limb 4(–8)-partite. *Petals* perigynous, much exceeded by the stamens. *Ovary* 2–3-celled: cells multiovulate. *Berry* and *embryo* of *Eugenia.*—Trees; inflorescence *centripetal: flowers large.*

15*. **J. malaccensis,** *DC.* Glabrous; leaves oblong, lanceolate-oblong, or obovate-oblong, petioled: veins distant, with the sinuate arch distant from the margin; corymbs lateral; *berry turbinate.—Tuss. Fl.* 3. *t.* 25.—Eugenia, *L.* J. purpurascens, *DC.*—Leaves 6″ long; flowers purple; stamens 8‴–10‴ long, thrice as long as the petals; berries crimson, 3″ long, and as broad at the top.—HAB. Naturalized in Jamaica!, *Al.*, Trinidad; [introduced from the East Indies].

16*. **J. vulgaris,** *DC.* Glabrous; leaves lanceolate, acuminate, petioled: principal veins distant, costate, joined by a subcontinuous arch; corymbs terminal, few-flowered; *berry globose.—Desc. Fl.* 5. *t.* 315.—Eugenia Jambos, *L.*—Leaves 8″–6″ long; flowers white; stamens 1½″ long, thrice as long as the petals; berries usually about 1½″ diam.—HAB. Naturalized in Jamaica!, *Al.*, *March,* and in all the Caribbean Islands, *e.g.* Antigua!, *Wullschl.*; [introduced from the East Indies].

7. EUGENIA, *Mich.*

Calyx 4(–5)-lobed. *Petals* 4 (–5). *Ovary* 2–3-celled: cells multi–2-ovulate. *Berry* 1–few-seeded. *Testa* usually membranaceous. *Embryo* globose or ovoid, usually undivided: radicle short.—Inflorescence *centripetal, axillary.*

Sect. 1. EUGENIASTRUM.—*Ovary nearly as long as the calyx-tube: cells usually multiovulate.*

* *Pedicels short, solitary in the axils.*

17. **E. alpina,** *W.* Branchlets pubescent; *leaves* 3–4–2 *in the whorl,* small, leathery, ovate, blunt or bluntish, opaque, with impressed dots above, early glabrate: veins inconspicuous, midrib impressed above; *flowers single, shortly pedicellate;* berry ovoid.—Myrtus, *Sw.!*—A low tree, 6′–20′ high; leaves 4‴, petiole ½‴–1‴, pedicels 1‴, berry 4‴ long.—HAB. Jamaica!, *Sw., Pd., Al.,* on the highest summits of the Blue Mountains.

** *Flowers glomerate, shortly pedicellate or sessile: the interior pedicels usually in a minute raceme, the exterior fascicled, or all flowers sessile.*

18. **E. buxifolia,** *W.* Branchlets puberulous; *leaves* chartaceous, at length leathery, small, *cuneate-elliptical,* blunt, pellucid-dotted, glabrous: *veins* slightly prominulous beneath, *with the* continuous *arch somewhat distant from the margin;* clusters puberulous: *pedicels twice as long as the short petiole;* berry globose.—Myrtus, *Sw.* M. crenulata, *Sw.!:* a form with the leaves slightly crenulate above.—A shrub; leaves 8‴–2″, petiole 1‴–½‴ long; flowers 3‴, berries 1½‴ diam.—HAB. Jamaica!, *March,* in the lowlands; [Cuba!, S. Thomas!, Guadeloupe!].

19. **E. Poiretii,** *DC.* Branchlets puberulous; *leaves* chartaceous, elliptical-lanceolate or ovate-lanceolate, *tapering into a bluntish point,* pellucid-dotted, glabrous: *veins* slightly prominulous beneath, *with a double, flexuose arch;* clusters puberulous: *pedicels twice as long as the short petiole;* berry globose.—Myrtus axillaris, *Poir.*—Leaves 2″–1″, petiole 1‴–½‴ long; berries 1½‴ diam.—HAB. Trinidad!, *Cr.;* [Haiti, S. Thomas].

20. **E. monticola,** *DC.* Branchlets glabrous (rarely puberulous); *leaves* leathery, *cuneate-elliptical,* blunt, opaque, glabrous: *veins* nearly inconspicuous above, slightly prominulous beneath, *with the arch* nearly continuous, and *distant from the margin;* clusters glabrous (rarely puberulous): *pedicels as long as or exceeded by the petiole,* the interior racemulose; berry globose.—Myrtus, *Sw.!* E. axillaris *and* fœtida, *ex Antigua, Berg!*—A shrub, intermediate between *E. buxifolia* and *E. axillaris;* leaves black when dry, 2″–1″, petiole 2‴–3‴ long; flowers 3‴, berries 2‴–1½‴ diam.—HAB. Bahamas!; Jamaica!, all coll., in the mountains, chiefly in the Coffee region; Antigua!, *Wullschl.;* [Cuba!, Guadeloupe!].

21. **E. axillaris,** *Poir.* Branchlets glabrous; *leaves* leathery, *elliptical* (or elliptical-lanceolate), *bluntish at the base, pointleted with a short, blunt point,* opaque, rarely pellucid-dotted, glabrous: *veins* slightly prominulous, *in a lax network and with a flexuose arch;* clusters glabrous: *pedicels shorter than the petiole,* most of them fascicled; berry globose.—Myrtus, *Sw.!*—*E. baruensis,* Jacq. (Ic. Rar. t. 486), gives a good idea of this species and of the inflorescence, racemulose or fascicled in the same branch; hence it may be either a puberulous form of the same, or an allied species, intermediate between it and *E. procera.* A low tree or shrub; leaves 3½″–2″, petiole 3‴ long; flowers 4‴–5‴, berries 4‴–2½‴ diam.—HAB. Jamaica!, all coll., in the mountains.

22. **E. lateriflora,** *W.* Glabrous; *leaves* chartaceous, at length leathery, *cuneate-oval* or obovate-oblong, *rounded at the top,* opaque or obsoletely pellucid-dotted: veins slightly prominulous, with the arch flexuose and distant from the margin; *pedicels* crowded, usually *as long as the calyx-tube;* berry globose.—E. buxifolia, *Macf.* (*non W.*).—A shrub; leaves 2″–1″, petiole ½‴ long; flowers 2‴, berries 2‴ diam.—HAB. Jamaica!, *Macf., March,* common in the mountains; [Cuba!, S. Croix].

23. **E. sessiliflora,** *DC.* Glabrous; *leaves* chartaceous, at length leathery, oval, bluntish or rounded at the base, *rounded at the top,* cartilaginous on the margin, early opaque: veins slightly prominulous beneath, often inconspicuous, with the arch flexuose and

distant from the margin; *flowers sessile,* crowded; berry . . . .—Myrtus, *Spreng.* M. cordata, *Sw.!:* a form with subcordate leaves.—A shrub; leaves $1\frac{1}{2}''$–$1''$ long, subsessile; flowers $2'''$ diam.—HAB. Antigua!, *Wullschl.;* [Haiti, S. Thomas, S. Croix!].

*** *Flowers racemose or corymbose (rarely accompanied with single flowers).*

24. **E. obtusata,** *W.* Branchlets puberulous; *leaves* membranaceous, at length chartaceous, *cuneate-elliptical* or elliptical-lanceolate, *blunt or bluntly pointleted,* pellucid-dotted, glabrate: *veins* delicate, *with a flexuose arch distant from the margin; racemes sessile,* single, pubescent, 3–2 times shorter than the leaf (or reduced into a short corymb): *pedicels filiform,* spreading, 2–3 times longer than the petiole; berry . . . .—Similar to *E. inundata,* DC. Pl. Sprucean., which differs by longer pedicels.—Leaves $1''$–$2''$, petiole $1'''$–$\frac{2}{3}'''$, rhachis $7'''$–$2'''$, pedicels $2'''$ long, flowers $3'''$ diam.—HAB. Jamaica: introduced to Hort. Kew.!; Dominica!, *Imr.*

25. **E. disticha,** *DC.* Branchlets sericeous; *leaves* chartaceous, *elliptical-oblong or oblong-lanceolate, rounded at the base,* cuspidate, rarely blunt, pellucid-dotted, glabrate: *principal veins costate,* slightly prominulous, *with a juxtamarginal, continuous arch; corymbs fascicled,* sessile, much exceeded by the leaf: pedicels usually 2–3 times longer than the petiole; *berry ovoid.—Bot. Mag. t.* 867.—Myrtus, *Sw.!* E. virgata, *Macf.*—A monstrosity, with the pedicels partly solitary by the rhachis growing out into a leaf-branch, agrees with *E. balsamica,* Jacq. Fragm. t. 45. f. 2.—A shrub; leaves $2''$–$3''$, petiole $2'''$–$3'''$, rhachis $10'''$–$1'''$, pedicels $3'''$–$6'''$ long; flowers white, $6'''$–$5'''$ diam.; berries $3'''$ long, $2'''$ broad, crowned with the persistent, spreading, roundish calyx-lobes.—HAB. Jamaica!, all coll., in the northern and eastern districts.

26. **E. pallens,** *DC.* (*ex herb. Bks.*). Branchlets glabrescent; *leaves* chartaceous, *ovate or ovate-lanceolate, bluntish* at both ends or tapering above into a bluntish point, repand or crenulate, pellucid-dotted, glabrous: *veins* slightly prominulous beneath, *with a flexuose arch; corymbs fascicled,* pubescent, *usually peduncled* and half as long as the leaf, rarely shorter and sessile: pedicels as long as or twice as long as the petiole; *petals red; berry globose.*—Myrtus, *V.* E. dumosa, *Macf.* E. crenata, *Berg!*—A low tree or shrub, $20'$–$6'$ high, peculiar by its pink flowers (*Wils.*); leaves $2''$–$1\frac{1}{2}''$, petiole $2'''$–$3'''$, pedicels $5'''$–$2'''$ long; flowers $4'''$ diam.; berries red, $4'''$–$3'''$ diam. Leaf-crenatures occur also, though more rarely, in *E. disticha, virgultosa,* and others.—HAB. Jamaica!, all coll., in the mountains; [French islands!].

27. **E. virgultosa,** *DC.* Branchlets glabrescent; *leaves* leathery (or the younger ones chartaceous), *lanceolate* or lanceolate-linear (rarely ovate-lanceolate), *acuminate,* with the point usually bluntish, pellucid-dotted, early opaque, glabrous, shining above: midrib impressed above: *veins* delicate, *with a flexuose arch; racemes* (or corymbs) *single, pubescent,* usually sessile, of variable length: pedicels longer than the petiole; *berry globose.*—Myrtus, *Sw.!* E. lancea, *Poir.* E. acutiloba, *DC., Macf.*—*E. biflora,* DC. (*Myrtus,* L.), from P. Browne's figure (Jam. t. 25. f. 3), is perhaps also this species with a reduced inflorescence. —A low tree, $15'$–$6'$ high: leaves $2\frac{1}{2}''$–$1\frac{1}{2}''$ long, $5'''$–$8'''$ ($-12'''$) broad: petiole $2'''$–$3'''$; racemes $2'''$–$4'''$, pedicels $3'''$–$4'''$; flowers $3'''$ diam.—HAB. Jamaica!, *Sw., Pd., Macf.,* in the higher mountains; [Cuba!, Virgin Islands].

28. **E. trinitatis,** *DC.* Glabrous; *leaves* leathery, *ovate-lanceolate* or lanceolate, bluntish, opaque, shining above: *veins* slightly prominulous, *with a flexuose arch; racemes single, glabrous,* subsessile, *nearly as long as the leaves:* pedicels cernuous, as long as or shorter than the petiole; berry globose.—Myrtus dioica, *Sieb.! Trin.* 94.—Leaves $2''$–$1''$, petiole $2'''$, pedicels $2'''$–$1'''$ long; berries $3'''$ diam.—HAB. Trinidad!, *Sieb.*

29. **E. æruginea,** *DC.* Arboreous; branchlets sericeous; *leaves* chartaceous, at length flexible-leathery, *lanceolate-oblong* or elliptical-oblong, pointleted or bluntish, pellucid-dotted, glabrous or glabrate beneath, shining above: *principal veins costate,* slightly prominulous, *with a flexuose arch; racemes single, peduncled, rusty-sericeous,* 2–4 times shorter than the leaf: pedicels in distant pairs, nearly as long as the petiole: *bracteoles roundish;* ovary smooth: cells few-ovulate; *berry obovate-oblong.*—Myrtus, *Forsyth.*—Allied to *E. amazonica,* Berg (Fl. Bras. 18. t. 28), which is said to have many-ovulate ovary cells, and to *E. Schlechtendaliana,* Berg!, which has a sulcate ovary. A large tree; leaves $3''$–$4''$ long, $1''$–$1\frac{1}{2}''$ broad: petiole $3'''$ long; rhachis (with the peduncle) $2''$–$1''$ long: pedicels $3'''$–$2'''$

long: the pairs as much distant; flowers 4'''–5''' diam.; berries 6'''–8''' long, 4''' broad above.—Hab. Jamaica; Dominica!, *Imr.*; [Cuba!].

30. **E. Gregii,** *DC.* Branchlets rusty-pubescent; *leaves* chartaceous, at length flexible-leathery, *elliptical or elliptical-oblong*, bluntish, pellucid-dotted, shining-glabrous above, glabrate beneath: *principal veins costate*, prominulous on both sides, *with a flexuose arch; racemes* geminate or single, *corymbiform*, *rusty-pubescent*, subsessile, much exceeded by the leaf: inferior pedicels as long as the petiole, superior shorter: *bracteoles pointed; berry oblong.—Gærtn. Fr. t.* 33: the fruit.—Myrtus, *Sw.!* E. Sieberiana, *DC.* (*ex descr.*). E. chrysophylloides, *Macf.!* (*non DC.*). Greggia aromatica, *G.*—A shrub, 10'–15' high; leaves 5''–3'' long, 2''–1½'' broad: petiole 5'''–3''' long; racemes 1½''–1'' long: inferior pedicels 4'''–5''' long, superior gradually shorter; flowers 6''' diam., uppermost often subsessile; berries (immature) 4''' long, 2''' broad.—Hab. Jamaica!, *Al.*; Dominica!, *Sw.*; Trinidad (*ex syn. Sieb.*); [Cuba!].

**** *Pedicels fascicled, axillary.*

31. **E. procera,** *Poir.* Branchlets puberulous; *leaves* chartaceous, at length leathery, *ovate, with a bluntish point*, pellucid-dotted, or at length opaque, glabrous: *veins* slightly prominulous, *with a flexuose arch;* fascicles 2–6-flowered: pedicels glabrescent, much exceeding the petiole, 2–4 times exceeded by the leaf; anthers ovoid; *berry* globose, (*2'''–3''' diam.*).—Myrtus, *Sw.!* E. baruensis, *Gr. Pl. Carib.* (*non Jacq.*).—A tree, or shrub; leaves 1''–2'', petiole 1''', pedicels 3'''–6''' long; flowers 1½''' diam.—Hab. Jamaica!, *Wils.*; Antigua!, *Nichols.*; [Haiti!, French islands!].

32. **E. Pseudopsidium,** *Jacq.* Glabrous; *leaves* leathery, *elliptical-oblong or oblong, with a bluntish point*, pellucid-dotted, green on both sides: *veins* prominulous, reticulated on both sides, *with a flexuose arch;* fascicles many– 2(–1)-flowered: *pedicels twice or more exceeding the petiole;* anthers subglobose; *berry* globose, (*6'''–8''' diam.*).—*Jacq. Amer. Pict. t.* 140. *Mém. Genève*, 9. *t.* 21.—E. psidioides, *DC.*; E. Patrisii, *DC.*, is probably a form of the same.—A tree or shrub; leaves 4''–2'', petiole 3'''–2''', pedicels 4'''–6'''(–12''') long; berries red.—Hab. Dominica!, *Imr.*; [Portorico, French islands].

33. **E. calycolpoides,** *Gr.* Branchlets slightly puberulous, glabrescent; *leaves* chartaceous, *lanceolate-oblong* or elliptical-oblong, *pointleted with a bluntish point*, glabrous, pellucid-dotted, at length opaque: *veins* slightly prominulous, *with a subflexuose arch*, which is *distant from the margin;* fascicles 2–4-flowered: pedicels slender, 2–3 times exceeded by the leaf; *anthers oblong; berry ovoid-globose.*—E. Mini, *Mey.!* (*non Aubl.*). E. Patrisii, *Miq.!* (*in Pl. Kegel., non DC.*). E. psidioides, *Berg!* (*non DC.*).—Leaves 2½''–1½'' long, 6'''–10''' broad; petiole 1'''–1½''', pedicels 10'''–8''' long; flowers 5'''–6''' diam.; berries 6''' long, 4''' broad.—Hab. Trinidad!, *Cr.*, at Arima; [Guiana!].

34. **E. sinemariensis,** *Aubl.* Glabrous: *leaves* chartaceous, *oblong*, with a bluntish point, densely pellucid-dotted: *veins* prominulous, *with the principal arch regularly flexuose and distant from the margin;* fascicles 3–6-flowered: *pedicels short*, exceeded by the petiole: bracteoles minute; anthers ovoid; berry "globose."—*Aubl. t.* 198.—A tree; leaves 8''–4'', petiole 3''', pedicels 2'''–1''' long; flowers 5'''–6''' diam.—Hab. Trinidad!, *Cr.*, perhaps only naturalized; [Guiana].

35. **E. Lambertiana,** *DC.* Glabrous; *leaves* chartaceous, *elliptical-oblong*, or ovate-oblong, *with a bluntish point:* pellucid dots distant or obsolete: *veins* prominulous, *with a flexuose arch;* fascicles 2–6-flowered: *pedicels* slightly puberulous, or glabrescent, *as long as or longer than the petiole:* bracteoles minute; anthers ovoid; berry globose.—E. latifolia, *Gr.* (*non Aubl.*).—A high shrub; leaves 6''–4'', petiole 3'''–4''', pedicels 2½'''–6''' long; flowers 5''', berries 6''' diam.—Hab. S. Vincent (*DC.*); [Guadeloupe!, Panama!].

36. **E. Marchiana,** *Gr.* (*n. sp.*). Glabrous; *leaves* leathery, *oval-oblong* or oblong, *blunt*, shining, pellucid-dotted, or at length opaque: *veins thickish*, "prominulous-reticulated on both sides, *with the principal arch flexuose, and distant from the margin;* fascicles 20–6(–2)-flowered: *pedicels exceeded by the petiole: bracteoles* united at the base, *nearly half as long as the 4–5-lobed calyx-tube*; anthers ovoid-oblong; berry globose.—Habit exactly of *E. latifolia*, Aubl.! (hb. Bks.), which however from its figure has minute bracts, and ovoid-oblong berries.—A large tree; leaves 8''–6'' long, 4''–2½'' broad: petiole 6''' long; pedicels usually lateral, 3'''–2''' long: bracteoles broadly-ovate, blunt, 1''' long, persistent;

flowers 6‴–8‴, berries 4‴ diam.—HAB. Jamaica !, *Pd.*, *March*, in woods, Manchester; specimens collected in S. Vincent !, *Anders.*, and in Trinidad must be compared with *E. latifolia*, Aubl.

***** *Flowers precocious: pedicels slender, single or approximate, furnished at the base with an elongated bract, and bibracteolate below the top.*

37. **E. ligustrina,** *W.* Branchlets puberulous, glabrescent; *leaves* chartaceous, *lanceolate-oblong, bluntish,* glabrous, shining above, pale beneath, pellucid-dotted, at length opaque: *veins simple,* with the arch subcontinuous, distant from the margin; pedicels 2–4 times as long as the bract; *calyx-lobes oblong-lanceolate, bluntish; berry* globose, *smooth.*—Myrtus, *Sw.* Stenocalyx, *Berg!*—A low shrub; leaves 2″–1″, petiole 2‴–3‴, pedicels 1½″–1″ long; flowers 6‴, berries 3‴–4‴ diam.—HAB. Bahamas !, Jamaica !, *Wullschl.*; Antigua !, *Nichols.*, *Wullschl.*, Dominica !, *Imr.*, S. Vincent !, *Guild.*; Trinidad !, *Lockh.*, *Sieb.*, *Trin.* 145; [Cuba !, French islands !, Guiana !, Brazil !].

38. **E. uniflora,** *L.* Glabrous; *leaves* membranaceous, at length chartaceous, *ovate-lanceolate, bluntish,* green on both sides, pellucid-dotted, at length opaque: *veins reticulated,* with the principal arch deeply sinuate; pedicels much longer than the bract; *calyx-lobes linear-oblong, bluntish; berry* globose, *longitudinally furrowed.*—*Bot. Mag. t.* 473. —E. Michelii, *Lam.* Plinia rubra *and* pedunculata, *L.* Stenocalyx Michelii, *Berg.*—A low tree, or shrub, often cultivated for its eatable berries; leaves 2″–1½″, petiole 2‴, pedicels 18‴–8‴ long; flowers 6‴, berries 4‴ diam.—HAB. Bahamas !, Jamaica !, *March*, in the mountains of Port Royal; Antigua !, *Nichols.*, *Wullschl.*, Dominica !, *Imr.*, S. Vincent, *Guild.*; Trinidad !, *Lockh.*; [Guiana !, Brazil !, naturalized in the East Indies !].

Sect. 2. MYRCIARIA.—*Ovary exceeded by the calyx-tube: cells 2-ovulate.*

39. **E. coffeifolia,** *DC.* Glabrous; *leaves* chartaceous, *oblong, pointleted,* pellucid-dotted, or at length opaque: principal *veins* subcostate, slightly prominulous beneath, *with the arch flexuose and distant from the margin; flowers clustered, sessile,* often lateral; berry globose.—Myrciaria ramiflora, *Berg, ex descr.*—A small tree; leaves 4½″–2½″, petiole 2‴–3‴ long; flowers minute; berries 3‴–4‴ diam.—HAB. Dominica !, *Imr.*; S. Vincent, (*Forsyth*); [Guiana].

40. **E. floribunda,** *West.* Branchlets puberulous; *leaves* chartaceous, *lanceolate,* or ovate-lanceolate, *acuminate,* pellucid-dotted, glabrous: *veins* nearly simple, delicate, *with a juxtamarginal, subcontinuous arch; flowers clustered, subsessile;* berry . . . .—Myrciaria, *Berg.* M. protracta, *Berg!*—Leaves 2″–1″ long, 5‴–9‴ broad: petiole 1‴–2‴ long; flowers 2‴ diam.—HAB. Jamaica !, *M'Nab*; [S. Croix !, Guiana !].

Certain *Eugeniæ*, described from specimens collected in the British West Indies, remain doubtful: viz. from Jamaica, *E. filiformis* and *Wallenii*, Macf., and several of Berg's species, of which I omit all those which I have not seen, as in every case where I had the opportunity of comparing his authentic specimens, they proved to be old West Indian species.

8. AULACOCARPUS, *Berg.*

Calyx 5(–4)-lobed. *Petals* 5 (–4). *Berry* 5–2(–1)-pyrenous: nuts woody. *Embryo* of *Eugenia.*—Leaves *nearly veinless; inflorescence of* Eugenia.

41. **A. quadrangularis,** *Gr.* Glabrous; branchlets tetragonal, at length cylindrical; *leaves* rigid, leathery, *veinless* or obscurely veined, *ovate,* bluntly pointleted, or pointed, shining above, dotless; corymbs 2–1-flowered, with a short peduncle: pedicels 3–4 times as long as the petiole; calyx 5(–4)-lobed; berry globose.—Eugenia, *Duchass. in Pl. Carib.*—The structure of the berry is the same as that of *Aulacocarpus*, figured both by Bentham and Berg.—A shrub; leaves 2½″–1½″, petiole 2½‴–1‴, peduncle 1‴, pedicels 4‴–5‴ long. In the only deflorate flower the calyx-tube is 1‴ long, supported by two minute, linear bracts, which are as long as the ovary, shorter than the 4-lobed calyx: the other specimens are in fruit: berry red, 5‴ broad, 4‴ high, crowned with a 5-partite calyx-limb, usually 2-celled, 2-seeded.—HAB. Antigua !, *Wullschl.*; [Guadeloupe !, in woods of the lowlands].

9. ANAMOMIS, *Gr.*

Calyx 4–5-lobed. *Petals* 4–5. *Ovary* 2–4-celled, as long as the calyx-tube: cells multi-ovulate. *Berry* 1–few-seeded. *Testa* membranaceous. *Embryo* annular: cotyledons distinct, large, incurved-obovate, flat, fleshy: radicle basilar, incurved and approaching the top of the cotyledons.—Inflorescence *cymose (rarely reduced to single pedicels): central flower sessile, 2 lateral ones pedicellate, inserted into the axils of the bracteoles.*

This genus in habit resembles *Myrcia coriacea* and *Pimenta acris,* in both of which, however, the calyx-tube exceeds the ovary. From *Eugenia* it is easily distinguished by its centrifugal inflorescence, and approaches *Myrcianthes,* the embryo of which is differently described. A third *Anamomis* is *Eugenia esculenta,* Berg, a large tree, observed in Haiti by Schomburgk.

42. **A. fragrans,** *Gr.* Early glabrate; *leaves* leathery, *oval-roundish or obovate, emarginate* at the rounded or obtusate top, shining above, black-dotted beneath, cartilaginous on the margin: pellucid dots early disappearing: veins delicate, distant; peduncles nearly as long as the leaves, puberulous; *bracteoles shorter than the* sericeous *calyx-tube;* calyx-limb 4-partite; berry globose.—Myrtus, *Sw.* Eugenia, *W.*—A small tree, or shrub, very variable in the leaves, their glands impressed or prominulous on the upper side, and chiefly in the inflorescence, the cymes being either simple, 3(–1)-flowered, or long-exserted, with repeated, dichotomous ramifications, and the single 3-flowered cymes expanded or contracted.

α. Leaves oval-roundish, shortly petioled, rounded at the base; bracteoles linear.—Eugenia rotundifolia, *Macf.:* a form with 3–1-flowered, contracted cymes, and crenulate leaves.—Leaves $1\frac{1}{4}''$–$2''$ long, $1''$–$1\frac{1}{2}''$ broad: petiole $1'''$ long; ultimate pedicels in the expanded form $3'''$–$6'''$ long; flowers $4'''$, berries $3'''$ diam.

β. cuneata. Leaves obovate or oval, shortly cuneate at the petioled base; bracteoles lanceolate; peduncles usually simple.—Eugenia emarginata, *Macf.;* E. dichotoma *and* bracteata, *Macf.?*—Leaves $1\frac{1}{2}''$–$2''$ long, $8'''$–$15'''$ broad: petiole $1'''$–$2'''$ long.

Hab. Jamaica!, *Pd., Al., March,* in the mountains.

43. **A. punctata,** *Gr.* Branchlets pubescent; *leaves* chartaceous, at length leathery, *elliptical, bluntish,* cuneate at the base, black-dotted beneath, glabrate, pellucid-dotted, at length opaque: veins delicate, distant; peduncles nearly as long as the leaves, pubescent, 3–7-flowered; *bracteoles linear, as long as the* pubescent *calyx-tube,* deciduous; calyx-limb 5–4-partite; berry globose.—*Bot. Mag. t.* 1241.—Eugenia, *V.;* Myrcia, *DC.;* M. Balbisiana, *DC.:* a form with a contracted cyme. Eug. fragrans, *Bot. Mag.* (*non W.*). E. dichotoma, *DC.:* the common form, with the lateral pedicels exceeding the central flower.—Nearly allied to the preceding, but the leaves less rigid and less shining, not so much variable in the leaves and the inflorescence: the embryo is the same in both.—Leaves $2''$–$1\frac{1}{2}''$ long, $1''$ broad: petiole $2'''$–$3'''$, lateral pedicels in the expanded form $2'''$–$3'''$ long; flowers $4'''$, berries $3'''$ diam.—Hab. Antigua!, *Wullschl.;* [Haiti!, French islands!].

10. PIMENTA, *Lindl.*

Calyx 4–5-lobed: tube turbinate. *Petals* 4–5. *Ovary* 2-celled: cells 2- or several-ovulate. *Drupe* 1–2-seeded. *Testa* membranaceous. *Embryo* spirally involute, or inflexed: radicle elongated: cotyledons short.—Trees; leaves *leathery, black-dotted beneath, long-petioled;* cymes *terminal or axillary, trichotomous, many-flowered:* flowers *pedicellate, or the central ones subsessile.*

44. **P. vulgaris,** *W. A.* Branchlets compressed-subtetragonal, glabrate; *leaves oblong,* or lanceolate-oblong, glabrous; veins obsolete above, primary distant and slightly prominulous beneath; cymes compound, corymbiform, usually exserted; *calyx 4-lobed:* tube as long as the ovary; *drupe globose;* embryo spirally involute.—*Sl. t.* 191. *f.* 1. *Hayne Arzn.* 10. *t.* 37.—Myrtus Pimenta, *L.;* Eugenia Pimenta, *DC.*—$30'$–$40'$ high; leaves $6''$–$2''$, petiole $5'''$–$6'''$ long; flowers $3'''$, drupes $3'''$ diam. The male Pimento is a form with the female organs less developed.—Hab. Jamaica!, all coll., common, chiefly on limestone; [Cuba!, cultivated in many tropical countries].

A form with the leaves elliptical-oblong, and the calyx-tube produced beyond the ovary,

is perhaps not specifically distinct: this would answer to *Tuss. Fl.* 4. *t.* 12 (*exclus. f.* 1–11), in which, however, there are 5 petals, as also in *Desc. Fl.* 3. *t.* 215.

45. **P. Pimento,** *Gr.* Glabrous; branchlets compressed-subtetragonal; *leaves obovate,* rounded at the top: *veins obsolete above,* slightly prominulous and reticulated beneath; cymes short, much exceeded by the leaves; *calyx* 5-*lobed:* tube nearly as long as the ovary; *drupe ovate-oblong;* embryo inflexed.—Amomis, *Berg.*—Leaves 3″ long, 6‴ broad, revolute on the margin: petiole 3‴–5‴ long; drupes 5‴ long, 3‴ broad.—HAB. Jamaica!, *Al.*, at Moneague; [Antigua, Guiana].

46. **P. acris,** *W. A.* Glabrous; branchlets compressed-subtetragonal or tetraquetrous; *leaves oval* or obovate-roundish, shining above: *veins reticulated, prominulous above,* slightly prominulous beneath; cymes lax, equalling or exceeding the leaves; *calyx* 5-*lobed:* tube produced beyond the ovary; *drupe ovoid;* embryo inflexed.—Myrtus, *Sw.* Myrcia, *DC.*—Leaves 2″–3″ long, 1″–1½″ broad, convex above, with scattered pellucid dots, at length opaque: petiole 2‴–3‴ long; drupes 6‴–4‴ long, 3‴–2‴ broad.

α. Branchlets compressed-subtetragonal; leaves usually oval.—*Bot. Mag. t.* 3153.—Amomis acris, *Berg.*

β. pimentoides. Branchlets tetraquetrous: the angles decurring from the margins of the petiole; leaves obovate.—*Tuss. Fl.* 4. *t.* 12. *f.* 1.–11.—Myrcia pimentoides, *DC.* Amomis, *Berg.*

HAB. Jamaica (*Sw.*, *Macf.*), in dry hills; Antigua!, *Wullschl.* (*β*); Dominica!, *Imr.* (*α*); S. Vincent!, *Guild.* (*α*, *β*); Barbadoes; Trinidad; [Haiti!, Portorico!, Martinique, Guadeloupe!, Venezuela; naturalized in the East Indies!].

11. CALYCOLPUS, *Berg.*

Calyx 5-lobed: lobes spreading in the bud, separated by a rounded sinus. *Petals* 5. *Anthers* oblong-linear, erect. *Ovary* as long as the calyx-tube, 5–4-celled: cells multiovulate. *Berry* several-seeded. *Testa* hard. *Embryo* annular: radicle elongated: cotyledons very short.—Pedicels *fascicled or single:* flowers *large.*

47. **C. ovalifolius,** *Berg.* Glabrous; branchlets subcylindrical; *leaves* leathery, *elliptical-oblong* or elliptical, apiculate with a bluntish point, or bluntish, shining above, opaque: *veins in a lax network,* slightly prominulous beneath; *pedicels ternate* (or 4–2), 4 times exceeded by the leaf; *calyx-lobes ovate-oblong, as long as the tube.*—Allied to C. calophyllus (Myrtus, *Kth.*), which has shorter calyx-lobes.—Leaves 6″–3″ long, discolor: petiole 2‴–1‴ long; pedicels 1½″–1″, calyx-lobes 2‴–3‴, petals 8‴–10‴ long; flowers odorous (*Cr.*); berries depressed-globose, 5‴ diam.—HAB. Trinidad!, *Cr.*, at Arima, Maraccas.

12. PSIDIUM, *L.*

Calyx closed in the bud or minutely 4–5-dentate, at length bursting into lobes. *Petals* 4–5. *Ovary* 5–2(–7)-celled: cells multiovulate. *Berry* many-seeded. *Testa* hard. *Embryo* of *Calycolpus.*—Peduncles 1-*few-flowered, rarely many-flowered:* flowers *large.*

48. **P. Guava,** *Radd.* *Branchlets tetragonal, pubescent; leaves* chartaceous, *oblong* or elliptical-oblong, bluntish (rarely lanceolate, pointed), puberulous beneath: *primary veins costate,* prominent beneath, secondary transverse; peduncles 1(–3)-flowered; calyx closed in the bud; anthers oval.—*Desc. Fl.* 2. *t.* 72.—P. pomiferum, *L.*, *with globose, and* P. pyriforme, *L.*, *with obovate berries.*—A low tree; flowers 1″ diam.

α. Leaves oblong or elliptical-oblong, bluntish at the base (3″–4″ long, 15‴–21‴ broad).

β. pumilum, V. Leaves lanceolate or lanceolate-oblong, pointed at both ends (2″ long, 6‴ broad).—P. fragrans, *Macf.*

HAB. Jamaica!, all coll., very common; *β* at S. Mary's!, *M'Nab;* Caribbean Islands!; Trinidad!, *Cr.;* [Cuba! and Mexico! to Brazil!; naturalized in all tropical countries to China! and to the Cape!].

49. **P. polycarpum,** *Lamb.* *Branchlets compressed-cylindrical, pubescent; leaves* chartaceous, *elliptical* or oval-oblong, puberulous beneath: *primary veins costate,* prominent beneath, secondary reticulated and transverse; peduncles usually 3-flowered; calyx closed in

the bud ; anthers oblong.—*Lamb. in Linn. Transact.* 11. *t.* 17.—Leaves 5″–4″ long, 2½″–2″ broad ; flowers 1″ diam.—HAB. Trinidad (*Lamb.*) ; [Guiana !, Brazil].

50. **P. montanum,** *Sw.* *Branchlets tetragonal, glabrescent ; leaves* chartaceous, *elliptical* or elliptical-lanceolate, glabrous : *veins slightly prominulous beneath ;* peduncles 1–3-flowered ; calyx closed in the bud ; anthers shortly oblong.—*Desc. Fl.* 5. *t.* 364.—P. aromaticum, *Desc.* (*non Aubl.*).—A high tree ; leaves 3″–2½″ long, 1½″–1″ broad ; flowers 1″ diam. ; berry globose, 4‴–5‴ diam.—HAB. Jamaica !, *Macf.*, *M'Nab*, *Wils.*, *Wullschl.*, in mountain woods, S. Mary's, Fairfield.

51. **P. cordatum,** *Sims.* Glabrous ; *branchlets compressed-cylindrical ; leaves* leathery, *ovate* or oval, *rounded* at both ends or cordate at the base, sessile or shortly petioled : veins obsolete or inconspicuous ; peduncles 1–few-flowered ; anthers roundish.—*Bot. Mag. t.* 1779. —Leaves 3″–1½″ long, 2″–1″ broad ; flowers 8‴ diam.—HAB. Jamaica !, *March ;* Nevis (*Sims*) ; [S. Thomas, Guadeloupe].

52. **P. Guildingianum,** *Gr.* (*n. sp.*). Glabrous ; *branchlets compressed-cylindrical ; leaves* leathery, *elliptical-oblong*, bluntish : primary *veins* approximate, *delicate*, straightish, with a continuous, juxtamarginal arch, obsoletely prominulous above, inconspicuous beneath ; peduncles fascicled, 5–9-flowered or trichotomous above the base : ultimate flowers ternately clustered (or single) ; anthers oblong ; berry minute.—Habit of *Myrcia coriacea ;* leaves rigid, devoid of pellucid dots, polished beneath, 5″–3″ long, 2″–1½″ broad : petiole 2‴ long ; cymes axillary or lateral, 1′ long, once or twice trichotomous : flowers sessile in the special clusters ; calyx irregularly 4–5-lobed : limb much produced beyond the ovary, while in the other species the limb bursts down to the ovary itself ; berry globose, 3‴ diam., separated by a terminal stricture from the persistent, spreading calyx-limb ; seeds many, in 4 cells, subglobose : testa hard.—HAB. S. Vincent !, *Guild.*

13. CAMPOMANESIA, *R. P.*

Calyx 5(–4–6)-lobed. *Petals* 5 (4–6). *Ovary* 4–many-celled, a little exceeded by the turbinate calyx-tube : cells multiovulate. *Berry* few-seeded. *Testa* membranaceous. *Embryo* spirally involute : radicle elongated : cotyledons short, at the summit of the interior involution. —Pedicels *slender, solitary or fascicled.*

53. **C. aromatica,** *Gr.* Branchlets puberulous, compressed-cylindrical ; *leaves rugose, membranaceous,* elliptical, apiculate, long-petioled, glabrate, early opaque : *primary veins* arcuate-costate, distant, *impressed above, thickish-prominent beneath*, secondary transverse, less prominulous ; *flowers precocious ;* pedicels approximate, 4–2 times larger than the bract, pubescent : bracteoles 2, filiform, as long as the velvety-pubescent calyx-tube ; calyx-lobes 5 (–" 4 "), ovate, blunt ; anthers oblong-linear ; berry globose.—*Aubl. t.* 191.—Psidium, *Aubl.* Stenocalyx Pseudo-Psidium, *Berg ?*—A low, very aromatic tree ; leaves 3″–2″, petiole 4‴ long ; pedicels in distant fascicles, 4‴–12‴, bracts 3‴–2‴, bracteoles 1½‴ long ; petals obovate, 3‴ long, twice as long as the calyx-lobes ; ovary 4-celled ; berries 2-seeded, 3‴ diam.—HAB. Trinidad !, *Lockh.*, *Cr.*, common : [Martinique (*ex syn. Berg*) ; Guiana].

14*. PUNICA, *L.*

Calyx 5(–7)-lobed : tube turbinate. *Petals* 5 (–7). *Berry-cells* 2(–3)-seriate : inferior 2–4, superior 4–9. *Cotyledons* foliaceous, spirally convolute : radicle short, basilar.—Leaves *dotless.*

54*. **P. granatum,** *L.*—*Desc. Fl.* 1. *t.* 35.—P. nana, *L.* : a shrubby form, with narrow leaves.—A tree ; leaves lanceolate-oblong or linear-lanceolate ; flowers crimson, large ; berry globose.—HAB. Naturalized in Jamaica !, Antigua !, *Wullschl. ;* [introduced from northern Africa and southern Europe].

TRIBE II. *LECYTHIDEÆ.—Stamens ∞, united at the base.*—Leaves alternate, dotless.

15. GRIAS, *L.*

" *Calyx* 4-fid. *Petals* 4. *Stamens* connate at the base, in 5 rows. *Stigma* cruciform,

sessile. *Pericarp* drupaceous.—A long-leaved tree: *branches none or short;* flowers *lateral, large, white.*"

55. **G. cauliflora,** *L.*—*Sl. t.* 217. *f.* 1. 2.—"Stem 30′–50′ high; leaves lanceolate, acuminate, glabrous, 2′–3½′ long, 10‴ broad; peduncles very short, many-flowered."—HAB. Jamaica (*Al.*), in damp thickets, common in certain districts.

Several other *Lecythideæ* are cultivated, and some indigenous, but of none specimens were sent. A *Lecythis* is mentioned by Crueger as a Trinidad tree; fruits exist in the economic Kew Museum, from the same island, of *Bertholletia excelsa;* and from S. Vincent of a *Lecythis* (stated to be *L. coriaria*, DC.), of *Couroupita guianensis*, Aubl. (Tuss. Fl. 2. t. 10. 11; Desc. Fl. 5. t. 340), and of a *Gustavia.*

TRIBE III. *MEMECYLEÆ.*—*Stamens* 10–8, *distinct: anthers produced below, bursting with short clefts or pores. Pericarp baccate.*—Leaves opposite, quite entire.

16. MOURIRIA, *Aubl.*

Calyx 5(–4)-dentate: tube produced beyond the ovary. *Petals* 5 (–4). *Stamens* 10 (–8): anthers oblong, biporose at the top. *Ovary* 5–2-celled: cells few-ovulate. *Berry* 1–few-pyrenous. *Cotyledons* flat-convex.—Leaves *opaque, glabrous;* inflorescence *axillary: pedicels jointed and bibracteolate about the middle.*

56. **M. myrtilloides,** *Poir.* Branchlets tetragonal; *leaves* ovate-lanceolate, acuminate, *veinless:* petiole very short or none; *pedicels* 1–3, *exceeding the petiole,* bibracteolate at the middle: bracteoles subulate; calyx-tube campanulate: teeth 5, deltoid-roundish; anther-cells as long as the conical, connectival spur: pores roundish; berry "globose, 1(–2)-seeded."—*Sl. t.* 187. *f.* 3.—Petaloma, *Sw.!*—A low tree or shrub; leaves 2½″–1½″ long, 12‴–6‴ broad; pedicels 2‴ long; flowers 4‴ long, white: stamens exserted.—HAB. Jamaica!, *Al.*, *Wils.*, *March*, in woods, at 1000′ alt.; [Haiti!].

57. **M. domingensis,** *Walp.* Branchlets tetragonal, at length cylindrical; *leaves* chartaceous, ovate-oblong, pointed, *petioled: veins* distant, *slightly prominulous beneath;* corymbs or fascicles 3–5-flowered: pedicels exceeding the petiole, minutely bibracteolate below the middle; calyx-tube turbinate, at length campanulate: teeth 5, broad, subtruncate; anther-cells as long as the recurved, conical, connectival spur: pores oval; berry globose, 4–1-seeded.—*Tuss. Fl.* 3. *t.* 37.—Petaloma, *Tuss.*—Allied to *M. guianensis*, Aubl., in which the leaves are leathery, and the pedicels bibracteolate at the middle. Leaves 3½″–2½″ long, 1½″–1″ broad: petiole 3‴–2‴ long; pedicels 3‴ long; flowers 3‴–4‴ long, rosy.—HAB. Antigua!, *Wullschl.;* [Haiti].

Olisbea rhizophorifolia, DC. (*Guildingia psidioides*, Hook. Bot. Misc. 1. t. 30), is a cultivated tree of S. Vincent, though indigenous in Martinique, approaching *Mouriria.*

LXVIII. MELASTOMACEÆ.

Stamens definite, mostly twice as many as the twisted petals, inserted into the valvate calyx, inflexed in æstivation, viz. bent downwards towards either the ovary or the bottom of the calyx, and ascending on the opening of the flower: the anthers anterior and adnate to the connective, bursting usually by terminal pores. *Ovary* inferior, or adhering to the calyx-tube by longitudinal lines, which separate from each other the special holes for the reception of the anthers in the bud, and often disappear during development, or in some instances entirely free from the calyx: cells several, with the ovules mostly indefinite and usually attached to the axis of the cells. *Seeds* exalbuminous, mostly ∞.—Leaves *curve-ribbed,* opposite, undivided, dotless, exstipulate.*

The uses and properties of the *Melastomaceæ* are of no importance. The berries, if succulent, are eatable, as those of *Blakea, Bellucia,* and others, the *Bellucia* having on that

* In the following descriptions only the principal ribs of the leaves are numbered, viz. those that equal the midrib in strength, without regard to those weaker branches which run near the margin and are sometimes wanting.

account been introduced from the American continent. The flowers of *Meriania* are mentioned among the astringent and aromatic drugs, and this astringent principle prevails through the whole family.

ARTIFICIAL KEY OF THE WEST INDIAN GENERA.

A. *Miconieæ.*—Fruit berried. Connective not enlarged.

- Anthers without tail.
  - Anthers opening with pores.
    - Anthers oblong, blunt.
      - Divisions of calyx-limb filiform.
        - From below the margin . . . . CALYCOGONIUM.
        - From the margin . . . . CLIDEMIÆ sp.
      - Divisions of calyx-limb subulate . . . . HETEROTRICHUM.
      - Divisions of calyx-tube minute . . . . MICONIA, sect. *Hartigia*.
      - Divisions of calyx-tube none.
        - Limb subentire . . . . LOREYA.
        - Limb operculate . . . . CONOSTEGIA.
    - Anthers linear.
      - Divisions of calyx-limb subulate . . . . CLIDEMIA.
      - Divisions of calyx-limb minute . . . . TSCHUDYA.
    - Anthers tapering towards the top or beaked.
      - Anthers inflexed to the bottom of the calyx . . . . DIPLOCHITA.
      - Anthers inflexed above the ovary.
        - Anther-cells connected.
          - Anthers without a beak . . . . MICONIA.
          - Anthers beaked . . . . TETRAZYGIA.
        - Anther-cells separated by a furrow.
          - Anthers bluntish . . . . MICONIA, sect. *Arrhenotoma*.
          - Anthers beaked . . . . HENRIETTEA.
    - Anthers tapering towards the base, elliptical-oblong.
      - Anther-cells connected . . . . CLIDEMIÆ sp.
      - Anther-cells distinct . . . . OCTOPLEURA.
  - Anthers opening with one anterior fissure . . . . EURYCHÆNIA.
  - Anthers opening with two longitudinal fissures . . . . . PLEUROCHÆNIA.
- Anthers tailed.
  - Anthers opening with terminal pores.
    - Anthers oblong . . . . OSSÆA.
    - Anthers obovate-truncate . . . . CREMANIUM.
  - Anthers opening with one anterior fissure.
    - Ovules indefinite . . . . CHÆNOPLEURA.
    - Ovules two in each cell. Tail of anthers very short . . EURYCHÆNIA.

B. *Pyxidantheæ.*—Fruit berried. Connective enlarged.

- Stigma minute, even. Involucre . . . . BLAKEA.
- Stigma capitate, furrowed. Involucre none . . . . BELLUCIA.

C. *Charianthеæ.*—Fruit capsular. Seeds not cochleate.

- Anthers without appendages . . . . CHARIANTHUS.
- Anthers spurred.
  - Spur descending.
    - Spur conical. Ovary 5-locular . . . . MERIANIA.
    - Spur short. Ovary 2-locular . . . . CYCNOPODIUM.
  - Spur reflexed . . . . DAVYA.

D. *Lasiandreæ.*—Fruit capsular. Seeds cochleate.

- Ovary adherent.
  - Stamens unequal . . . . HETERONOMA.
  - Stamens of the same structure . . . . CHÆTOGASTRA.
- Ovary at length free from the calyx.
  - Ovary crowned with bristles . . . . ARTHROSTEMMA.

Ovary without terminal bristles.
Anthers without appendages . . . . SPENNERA.
Anthers with appendages.
Stamens of the same structure.
Spurs ascending . . . . NEPSERA.
Tails bitubercled . . . . COMOLLIA.
Stamens unequal . . . . ACISANTHERA.

TRIBE I. *MICONIEÆ.—Fruit berried. Seeds not cochleate.*—Anthers without an enlarged connective: appendages usually small or none: tail, if existing, contiguous to the filament.

1. CALYCOGONIUM, *DC.; Naud. Ann. Sc. Nat. III.* 16. *p.* 85.

Calyx campanulate or pitcher-shaped: lobes 4, filiform, inserted below the margin of the produced limb. *Anthers* 8, oblong, without appendages, inflexed above the ovary, opening with a single terminal pore: cells distinct below the top. *Ovary* adherent, 4-locular, not produced at the top. *Seeds* pyramidal.—Shrubs, *not hispid, with single or a few, clustered, terminal or axillary flowers;* leaves *entire, petioled: the lateral ribs delicate and disappearing below the end of the leaf;* petals 4, *obovate, usually mucronate.*

1. **C. glabratum,** *DC.* Glabrous; *leaves ovate-lanceolate:* axils of nerves usually bearded; *flowers as long as the peduncle;* calyx terete; style fusiform, with the stigma minute.—Melastoma, *Sw.*—A diffuse shrub, 3′–6′ high; leaves 1½″–2½″ long, triplinerved, bluntish and callous at the point; flowers solitary, terminal; calyx pitcher-shaped: tube 2‴–3‴ long, as long as the keeled filiform lobes, with the interior margin of the limb subentire; petals white, somewhat shorter than the calyx-lobes; berry globose, black.—HAB. Jamaica!, *Pd.*, *Wils.*, in the mountains of Port Royal.

2. **C. rhamnoideum,** *Naud.* Glabrous; *leaves obovate* or oval: axils of nerves glandular, with a single gland; *flowers subsessile;* calyx terete; "style fusiform, with the stigma minute."—C. glabratum, *Macf.* (*non DC.*).—A shrub, 6′ high; leaves usually 1″ long, blunt, triplinerved; flowers solitary or geminate, terminal; calyx and petals of the preceding species.—HAB. Jamaica!, *Pd.*, *March*, rare, on pastures; [Cuba].

2. LOREYA, *DC.; Naud.* (*l. c.* 18. *p.* 109).

Calyx ovate: limb short, entire or repand. *Anthers* 10, oblong, without appendages, inflexed above the ovary, opening with a single terminal pore: cells distinct below the top. *Ovary* adherent, 5-locular, umbilicated and glabrous at the top; stigma conical or capitate. *Seeds* pyramidal.—*Large-leaved, glabrescent,* shrubs *or* trees; flowers *lateral,* i.e. *axillary in the axils of former leaves, fascicled, or cymose.*

3. **L. trinitensis,** *Crueg.!* *Leaves* oval, eminently triplinerved, *tapering at the subsessile base;* flowers fascicled: the pedicels simple, longer than the calyx; the stigma conical.—*Br. Jam. t.* 24. *f.* 1, 2: very good.—L. fasciculiflora, *Naud.*—A shrub, 20′ high; leaves 6″–18″ long, entire, or with distant, minute, blunt teeth, perfectly glabrous: the lateral ribs separating from the midrib, 2″, and the juxtamarginal ones about 6‴ above the base; pedicels usually 3–7-nate, filiform, 4‴–8‴ long; calyx-tube 2‴ long, double the length of the spreading, entire limb; petals roundish, clawed, about 4‴ long (including the broad claw), white.—HAB. Jamaica!, *Pd.*, *M'Nab*, *Wils.*, at 3000′ alt., in moist woods; Trinidad, at S. Anns, *Cr.*

3. HENRIETTEA, *DC.; Naud.* (*l. c.* 18 *p.* 104).

Calyx campanulate: limb produced, spreading. *Anthers* 10–12, beaked-subulate, without appendages, inflexed above the ovary, opening with a single terminal pore: cells distinct below the top, beak incurved. *Ovary* adherent, crowned with a glabrous, denticulated neck; style thickened towards the capitate stigma. *Seeds* obovate.—Arborescent shrubs *or* trees, *rough in the younger parts;* leaves *large, entire, shortly petioled;* flowers *lateral,* i.e. *axillary in the axils of former leaves, fascicled:* pedicels *simple, usually shorter than the flower;* petals *of the West Indian species rosy, with blue anthers.*

4. **H. succosa,** *DC.* Leaves oval or obovate, bluntish at the base; *calyx-tube* enlarged at the top, *much longer than the* 5-*parted limb;* anther-cells thickened towards the base and twice as thick as the connective; style hairy.—*Aubl. t.* 162.—An arborescent shrub, 15′–20′ high: down yellowish-rusty; leaves 4″–10″ long, triplinerved, pointleted, strigose, with short hairs on both sides, glabrescent above, pale beneath; fascicles 5–1-flowered; calyx strigose: tube 4‴–5‴ long, divisions roundish and bearing minute exterior teeth below the top; petals downy beneath, obovate, mucronate; ovary 5-locular; berry violet.—HAB. Trinidad!, *Crueg.;* [Guiana, Brazil].

5. **H. ramiflora,** *DC.* (*non Macf.*). Leaves obovate, tapering towards the base; *calyx-tube* at length contracted at the top, *as long as the* 5-*lobed or repand limb;* anther-cells at the base as thick as the connective; style glabrous.—*Plukn. Alm. t.* 249. *f.* 2: a single leaf.—Melastoma, *Sw.* Henriettea grandifolia, *Macf.* (*exclus. syn. Br.*).—A tree; leaves 4″ 10″ long, triplinerved, pointleted, glabrescent above, rough and yellowish with appressed hairs beneath; fascicles 5–1-flowered; calyx strigose: tube scarcely 2‴ long, lobes rounded; petals downy beneath, obovate, mucronate; ovary 5-locular.—HAB. Jamaica!, *March,* in woods.

4. OSSÆA, *DC. reform.*

(Sagrææ *sp.*, *Naud.*)

Calyx shortly campanulate: limb short, spreading, repand. *Anthers* 8(–10), oblong, blunt, inflexed above the ovary, opening with a single pore: filaments articulated at the knee with the inflexed, connectival tail: cells distinct, each with a longitudinal furrow. *Ovary* adherent, crowned with a glabrous, furrowed neck: style slender, with a small, capitate stigma. *Seeds* obovate.—Shrubs, *rough with a short hispid down, or scattered bristles on the younger, tetragonal branchlets;* leaves *comparatively large, petioled;* flowers *lateral, fascicled:* pedicels *simple;* petals 4 (–5), *pointed, forming a conical body in the bud.*

6. **O. fascicularis,** *Gr.* Branchlets rusty-hispid; *leaves* elliptical, tapering at the base, pointed, *rusty-hispid on the ribs beneath;* fascicles many-flowered; anthers oblong-linear, tapering upwards; *tail* thickish, *much shorter than the cells;* ovary 4–5-locular.—Melastoma, *Sw.!* Sagræa, *DC.* Staphidiastrum, *Naud.* Sagræa acutiflora, *Naud. partim.* Henriettea ramiflora, *Macf.!* (*non DC.*): a glabrescent form.—A shrub, 6′–10′ feet high, leafy at the top of branches; leaves 4″–6″ long, eminently triplinerved, entire, ciliated and roughish on both sides with scattered minute hairs: petiole 6‴–12‴ long; pedicels 2‴–3‴ long, about the length of the flower; calyx glabrous, 1½‴ long; petals of the same length, white, ovate-lanceolate, taper-pointed.—HAB. Jamaica!, *Pd.*, *Al.*, in damp woods of the central and western districts.

7. **O. lateriflora,** *DC.* Branchlets glabrous; *leaves* elliptical, tapering at the base, pointleted, at length *glabrous:* fascicles 3–many-flowered; anthers oblong, blunt: *tail as long as the cells;* ovary 4-locular.—Melastoma, *Vahl.* O. sparsiflora, *DC.* Sagræa, *Naud.* Clidemia, *Gr.*—Leaves 2½″–3″ long, triplinerved, subentire, subciliated, in the adult state quite glabrous: petiole 4‴–8‴ long, pedicels 2‴ long, as long as the berry; calyx glabrous; petals pointed.—HAB. Dominica!, *Imr.;* Montserrat, in mountain-woods; [Guadeloupe!, Venezuela!].

5. CLIDEMIA, *Don; Naud.* (*l. c.* 17. *p.* 338. *reform.*).

(Staphidium, *Naud.;* 17. *p.* 305. Staphidiastrum, *Naud.;* 17. *p.* 325. Sagræa, *DC.*, *Naud*).

Calyx campanulate or semiglobose: lobes 5–4 (–6), subulate, usually spreading (rarely reduced, with a point). *Anthers* 8–10 (–12), linear, sometimes broader, opening with 1 (–2) terminal pores: cells connected. *Ovary* bearing usually terminal bristles or a minute down. *Seeds* oval, or sometimes pyramidal.—Shrubs, *usually hispid;* cymes *or* clusters *axillary, chiefly towards the top of branchlets* (*or terminal*).

Sect. 1. STEPHANOTRICHUM.—*Anthers linear, inflexed to the bottom of the calyx. Bristles on the insertion-line of the stamens. Cymes axillary.*

8. **Cl. hirta,** *Don.* Branches and petioles pilose with long, rusty hairs; leaves ovate-oblong or ovate; *cymes subsessile,* corymbiform, equalling the petiole; calyx densely pilose:

lobes thread-shaped, from a subulate base, as long as the tube; petals 5 (-6), obovate; ovary 5-locular: style filiform, with a blunt stigma.—*Vahl, Ic. Amer.* 2. *t.* 24: a form with ovate leaves, representing his *Mel. crenata.*—Melastoma hirta, *L.* M. pauciflora, *Desr.* Cl. pauciflora, crenata, erythropogon?, *DC.* Cl. leptoclados, *Crueg.!* Staphidium pauciflorum, *Naud.!* St. Wilsonii, α, *Naud.!*: the ripening state, with the ovary adherent.—A common shrub, 3′–8′ high, variable in the form and nervature of leaves, the teeth of their margin, and the down; leaves 3″–6″ long, tripli-5-nerved, taper-pointed or pointleted, denticulate or subentire: hairs scattered; petals white or rosy; anthers tubercled on the posterior side of their base; ovary free in the bud (with the exception of the adhering lines), but at length adherent, produced at the tops into a long, cylindrical, furrowed neck; berry hairy, blue.

α. Leaves rounded at the base, minutely denticulate or subentire.

β. *elegans*, Don. Leaves ovate, subcordate at the base, densely crenated: crenatures rather large, roundish, unequal.—*Bot. Mag. t.* 1971; *Aubl. t.* 167.—Melastoma hirta, *Sw.!* M. crenata, *Mey. Esseq.!* Cl. crenata, *Crueg.!* Staphidium elegans, *Naud.!* St. Wilsonii, β, *Naud.!*

HAB. Jamaica!, all coll., common in shady situations and forests; S. Kitts!, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 65, *Cr.*; [Cuba! and Mexico! to Brazil! and Peru!].

Sect. 2. STAPHIDIUM.—*Anthers linear, inflexed above the adherent ovary. Cymes axillary.*

9. **Cl. spicata,** *DC.* Rusty-hispid; *leaves* ovate, *tubercled above* and *pitted beneath; cymes* contracted, *spiciform;* calyx-lobes filiform from a subulate base, double the length of their interior appendage; petals 5–6, obovate; ovary 5–6-locular: style filiform, with a minute stigma.—*Bonpl. Mel. t.* 3.—Staphidium, *Naud.*—A shrub, 2′–8′ high, extremely variable in the form of leaves, the inflorescence, and the down: leaves 5-nerved, crenated or denticulate, petioled; cymes usually compound below, usually with 3-flowered clusters; petals red or white; anthers without appendages; berry hairy, red.

α. Bristles of the branches not glandular, emerging from a stellate down; branches of the cymes short or none; calyx setose: lobes shorter than the tube, appendage roundish.—Cl. spicata, *Cr.!*, the most common Trinidad *Clidemia.* Heterotrichum dubium, *Macf.*

β. *strigillosa*, DC. Bristles glandular; most of the flower-clusters stalked; calyx larger: lobes almost equalling the tube, appendage oblong.—Melastoma, *Sw.!* Cl. bullosa, *DC.* Cl. fenestrata, *Benth.* Cl. agrestis, *Macf.* Heterotrichum viscosum, *Macf.* Cl. surinamensis, *Miq.!*: a form with looser cymes, and the calyx-lobes half the length of the tube.

γ. *pustulata, DC.* Somewhat hoary by tomentose down: bristles few, some of them glandular; cymes loosened into long-stalked clusters; calyx tomentose: lobes shorter and appendages often protruding.

HAB. Jamaica!, *Al.* (β), to Trinidad!, *Sieb. Trin.* 63, *Lockh.*, *Cr.*, common in woods and bogs; [Panama!, Venezuela!, Guiana!, Brazil!, Peru!].

10. **Cl. Berterii,** *Gr.* Branches and petioles shaggy with dense, rusty hairs; *leaves* ovate or subcordate, pointed, 5-*nerved,* denticulate, hairy: petioles exceeded by the axillary peduncles of the *corymbiform cymes; calyx* covered with long, spreading bristles: *lobes* filiform from a subulate base, *as long as the tube;* petals 4, obovate-oblong, blunt; ovary 4-locular: style filiform, with a minute stigma.—Sagræa, *DC.* Staphidiastrum, *Naud.!*—Leaves 4″–8″ long; anthers without appendages.—HAB. Jamaica!, *Pd.*, *M'Nab, Wils.*, in moist woods at 3000′ alt.

11. **Cl. latifolia,** *DC.* Branches and petioles setose with dense rusty hairs; *leaves* ovate, pointed, 5-*nerved,* denticulate, hairy: petioles long, equalling the axillary, *corymbiform cymes; calyx hairy,* bibracteolate: *lobes* shortly subulate, *half the length of the tube;* petals 4, obovate; ovary 4-locular: style filiform, with a capitulate stigma.—*Vahl, Ic. Amer.* 3. *t.* 29.—Melastoma latifolia, *Desr.* M. umbrosa, *Sw.!* Sagræa umbrosa, *DC.* Staphidiastrum latifolium, *Naud.* St. umbrosum, *Naud.* Staphidium latifolium *and* umbrosum, *Gr.*—A shrub, 6′–7′ high; leaves 4″–12″ long; cymes divided: secondary branchlets sub-3-flowered; petals white; berry hairy, black.—HAB. S. Kitts, Dominica!, *Imr.*; Trinidad!, *Sieb. Trin.* 59, in mountain woods; [Martinique!, *Sieb. Mart.* 299; Guadeloupe].

12. **Cl. Swartzii,** *Gr.* Branches and petioles pilose with dense, rusty, deciduous hairs; *leaves* ovate, pointed, 5-*nerved*, with scattered hairs or glabrescent: petioles equalling the axillary, *racemiform cymes; calyx* pilose, semiglobose, bibracteolate: *lobes* reduced, *mucronate*, with the mucro shorter than the subulate base; petals 4, roundish; ovary 4-locular: style filiform, with a capitulate stigma.—Melastoma pilosa, *Sw.!* Sagræa pilosa, *DC.* Staphidiastrum pilosum, *Naud.* St. rubrinerve, *Naud.?*—A shrub; leaves 4″–6″ long, denticulate or entire; cymes slender, either simple or trifid towards the base, densely pilose: flowers small; petals white, with a red base; berry hairy, small.—Hab. Jamaica!, *Pd.;* S. Vincent!, *Guild.*, in mountain woods; [Cuba].

13. **Cl. guadalupensis,** *Gr.* Branches tetragonal, powdery or downy, at length glabrous; *leaves* ovate, taper-pointed, *triplinerved*, glabrescent: petioles shorter than the peduncles of the axillary, *racemiform cymes; calyx* downy: *lobes* filiform from a subulate base, *much shorter than the tube;* petals 4, bluntish; ovary 4-locular: stigma minute.—*Plum. Ed. Burm. t.* 142. *f.* 2: a form with large leaves.—Sagræa, *DC.*—Leaves 3″–6″ long: transverse veins prominent beneath; cymes interrupted and few-flowered; anthers without appendages; berry black.—Hab. Dominica!, *Imr.;* [Guadeloupe!].

14. **Cl. hirsuta,** *Gr.* Branches and petioles pilose with rusty bristles; *leaves ovate-lanceolate, taper-pointed, triplinerved*, with scattered hairs: petioles shorter than the spreading pedicels of the axillary, *corymbiform cymes; calyx* setose: *lobes* filiform, from a subulate base, *as long as the tube;* petals 4, taper-pointed; ovary 4-locular: style fusiform, with a minute stigma.—Melastoma, *Sw.* Sagræa, *DC.*—A shrub, 2′–3′ high; leaves 2″–3″ long; cymes few-flowered; petals whitish; anthers without appendages; berry hairy, black-purple.—Hab. Jamaica!, *Macf.*, *Pd.*, *Wils.*, on the south-eastern hills.

15. **Cl. microphylla,** *Gr.* Branches and leaves downy with short, substrigose hairs; *leaves ovate, blunt, triplinerved, equalling the pedicels or twice as long; calyx* pilose, semiglobose: *lobes* filiform from a subulate base, *shorter than the tube;* petals 4, ovate, pointed; ovary 4-locular: stigma minute.—Melastoma, *Sw.!* Sagræa, *DC.* Ossæa pratensis, *Macf.*—A shrub, 2′–3′ high, with many divaricated branches; leaves 6‴–12‴ long, denticulate or repand: petiole 1‴–2‴ long; axillary pedicels usually solitary, simple (or "tripartite"), filiform; petals white; anthers without appendages; berry hispid, purple.—Hab. Jamaica!, *Macf.*, *Pd.*, *Al.*, in pastures of the central valleys.

Sect. 3. Staphidiastrum.—*Anthers inflexed above the adherent ovary. Flowers in axillary clusters.*

16. **Cl. rubra,** *Mart.* Branches rusty-tomentose or shaggy; *leaves* more or less elliptical, quintuplinerved, tubercled and strigose above, tomentose beneath, *upper ones shortly petioled* or subsessile; flowers crowded, sessile; *calyx* strigose: *lobes much shorter than the tube;* petals 4 (–5), obovate; ovary 4–3-locular: style filiform, with a minute stigma.—*Vahl, Eclog.* 2. *t.* 18; *Bonpl. Mel. t.* 39.—Melastoma, *Aubl.!* Sagræa sessiliflora, *DC.* Staphidiastrum rubrum, *Naud.* St. attenuatum, *Naud.* St. Bonplandii, *Naud.:* a form with longer petioles. Clid. debilis, *Crueg.!:* the same.—A shrub, 3′–5′ high; leaves usually 2″–4″ long, elliptical-ovate or elliptical-oblong, subacute; petals red (sometimes white); anthers without appendages.—Hab. Trinidad!, *Lockh.*, *Cr.*, common in gravelly savannahs; [S. Thomas, Panama!, Venezuela! to Brazil! and Peru!].

17. **Cl. scabrosa,** *Gr.* Branches tomentose; *leaves* ovate, bluntish, tripli-quintuplinerved, *rough: petioles much longer* than the axillary, sessile flowers; *calyx* strigose: *lobes as long as the* semiglobose *tube;* petals 4, taper-pointed; ovary 4-locular: style filiform, with a minute stigma.—*Br. Jam. t.* 24. *f.* 3.—Ossæa, *DC.* Sagræa, *Naud.* S. glomerata, *Naud.:* a form with crowded flowers. S. Lindeniana, *Naud.!:* a form with few-flowered clusters.—A shrub, 4′–10′ high; leaves 2″–4″ long, rough with short conical bristles on both sides, glaucous and obsoletely pitted beneath, crenulated; petals white and tinged with purple; anthers without appendages, short; berry hairy, rufous.—Hab. Jamaica!, *Macf.*, *Al.*, *Wils.*, along riversides in the hills; [Cuba!].

18. **Cl. crossosepala,** *Gr.* (*n. sp.*). Branches pilose and glabrescent; *leaves ovate* or elliptical-lanceolate, taper-pointed, quintuplinerved or triplinerved (sometimes obliquely trinerved), subacute at the petioled base, *glabrous* or glabrescent, ciliate, and powdery on the

ribs and veins beneath; flowers axillary, sessile or shortly stalked; *calyx* somewhat powdery: *lobes fimbriate* with a few long-stalked glands, *half the length of the campanulate tube;* petals 4, oval, blunt; ovary 4-locular: style linear.—A shrub, 8′–10′ high: younger branches subcompressed; leaves 4″–6″ long, membranaceous, entire, the opposite ones usually unequal, paler beneath; flowers white, clustered, at length lateral on the old branches; calyx-lobes 1‴ long; anthers undulate, linear, blunt, berry blue: seeds ovate, with a large, lateral hilum.—HAB. Jamaica!, *Wils.*, near Mansfield.

19. **Cl. trinitensis,** *Gr.* Branches pilose and glabrescent; *leaves oblong-lanceolate,* acuminate, *tapering towards the* linear, *subsessile base,* triplinerved, glabrescent or pilose beneath on the midrib; flowers axillary, shortly stalked; *calyx-teeth* subulate, *with a short point,* much shorter than the campanulate, glandular tube; petals 4, pointed; ovary bilocular.—Ossæa, *Crueg.!*—A shrub, 6′–8′ high; leaves 5″–3″ long, 1½″–1″ broad, membranaceous, entire; flowers white, clustered; calyx-tube 1‴ long, much longer than the pedicel, bearing long-stalked glands.—HAB. Trinidad!, *Cr.*, in the northern hills.

20. **Cl. Cruegeriana,** *Gr.* Branches glabrous; *leaves lanceolate,* long-acuminate, *rounded at the subsessile base,* triplinerved, *glabrous;* flowers axillary, shortly stalked; calyx-teeth reduced with a short point, tube campanulate, without glands; petals 4, pointed; ovary . . . .—Ossæa salicifolia, *Crueg.!:* his name, though a very appropriate one, was to be altered on account of *Cl. salicifolia,* Naud.—A shrub, 4′–5′ high; leaves 6″–3″ long, 1″–6‴ broad, and 2‴ broad at the rounded base, membranaceous, entire; flower-clusters few-flowered; calyx-tube narrow, 1‴ long, much longer than the pedicel.—HAB. Trinidad!, *Cr.*, at S. Anns with the preceding.

Sect. 4. OXYMERIS.—*Anthers inflexed above the adherent ovary, oblong, tapering at the base. Cymes axillary, short or slender, with narrow flowers.*

21. **Cl. capillaris,** *Gr.* Glabrous; *leaves* lanceolate, acuminate, *trinerved; cymes axillary,* peduncled, few-flowered, exceeding the petiole; calyx tubular: lobes 4, subulate; style thickened downwards, with a minute stigma.—Melastoma, *Sw.!* Sagræa, *DC.*—A low shrub, 2′–6′ high, with ascending, tetragonal branches, leafy only towards the top; leaves 2″–3″ long, 6‴–8‴ broad, subentire, exceeding the cymes, the pair often of unequal length: petiole 3‴–4‴ long; flowers 2–4 times shorter than the filiform pedicels; calyx 1½‴–2‴ long, ½‴ broad, with the pedicels somewhat roughish (sometimes glandular); petals shorter than the calyx, ovate, pointed, white; anthers 8, without appendages: pore single; ovary 4–2-locular; berry blue.—HAB. Jamaica!, *Macf.*, *Wils.*, *March,* in the Liguana and Leman mountains, from 1200′ upwards, chiefly in the upper regions.

22. **Cl. hirtella,** *Gr.* Branches pilose; *leaves ovate-lanceolate,* acuminate, *trinerved,* glabrous above, glabrescent and *glaucous beneath; cymes axillary,* shortly peduncled, few-flowered, equalling the petiole; calyx campanulate, glandular: teeth 4, reduced, with a short point; style linear, with a minute stigma.—Melastoma, *Sw.!* Sagræa, *DC.*—A low shrub, about 3′ high: younger branches somewhat angular; leaves 3″–2″ long, 1½″–1″ broad, green above, whitish beneath, membranaceous, entire: petiole pilose, 4‴–2‴ long; flowers white, as long as the pedicel: calyx-tube 1‴ long, longer than the petals; petals ovate-lanceolate, pointed; anthers 8, without appendages: pore partitioned; berry globose, 4-locular, purple.—HAB. Jamaica!, *Sw.*, *Wils.*, in the mountains, *e.g.* Cuna-Cuna pass, at 3000′ alt.

Sect. 5. LIMA.—*Anthers inflexed above the adherent ovary, elliptical-oblong. Panicle subterminal.*

23. **Cl. Lima,** *DC.* Branches muricated; *leaves* ovate, pointed, triplinerved, *tubercled on both sides,* pitted beneath; panicle racemiform; calyx tubercled: lobes subulate, bluntish, shorter than the tube; petals 5–4, taper-pointed; ovary 5–4-locular: style fusiform, with a minute stigma.—Cl. asperifolia, *Naud.!* Cl. hirsuta, *Macf.* Sagræa Lima, *Naud.:* said to differ by quaternary flower-parts and trinerved leaves, the description however agreeing in all essential points, and Desrousseau's original plant, according to his own statement, presenting the triplinerved leaves. S. bracteolata, *Macf.*—A shrub, 4′–6′ high: branches densely covered by short, thick bristles, without any softer down; leaves usually 2″ long, denticulate, petioled, without down: the dense tubercles of the upper side mucronate;

panicle loose, exhibiting stalked, 3-flowered heads; petals rosy; anthers somewhat tubercled at the base; berry purple.—HAB. Jamaica!, *Macf.*, rare in the mountains; [Cuba!, Haiti].

6. TSCHUDYA, *DC. reform.; Naud.* (*l. c.* 18. *p.* 91).

(Clidemiæ *sp.*, *DC.*, *Naud.*)

Calyx campanulate or semiglobose: limb reduced: teeth short, bluntish or obsolete. *Anthers* 10–8, linear, inflexed above the ovary, opening with a single terminal pore: cells connected above. *Ovary* crowned with a neck, bearing terminal bristles or a minute down.—Shrubs, *usually hispid; panicle usually terminal, with clustered or serial flowers.*

24. **T. rufescens,** *DC.* *Branches,* petioles, and panicle *shaggy* with rusty hairs; *leaves* ovate-oblong or elliptical-oblong, acuminate, 3-nerved or triplinerved, hairy chiefly on the nerves and more dense beneath; panicle compound: ultimate branchlets with *serial,* sessile *flowers; petals* 5, *subulate;* stigma capitate; berry 5-locular.—*DC. Melast. t.* 9.—T. asperiuscula, *DC.* Clidemia rhodopogon, *DC.*—A shrub, 6′–10′ high; leaves 4″–6″ long, denticulate or repand, petioled; panicle spreading: ultimate cymes 3–7-flowered; calyx-teeth linear, deciduous, about one-sixth the length of the tube; petals "greenish;" anthers without appendages; seeds obovate: rhaphe produced into a large appendage.—HAB. Trinidad!, *Lockh.*, *Cr.*, in mountain woods; [Guiana, equatorial Brazil].

25. **T. ibaguensis,** *Gr.* *Branches,* petioles, and panicle *shaggy* with rusty hairs; *leaves* ovate-oblong or ovate-lanceolate, acuminate, 3-nerved or triplinerved, with scattered hairs, chiefly on the nerves; panicle trichotomous: *flowers* shortly *serial,* sessile; *petals* 5, *obovate; stigma* peltate; berry 3-locular.—*Bonpl. Mel. t.* 45; *Miq. Comment. Phytogr.* 2. *t.* 10 *G.*—Melastoma, *Bonpl.* Clidemia miconioides, *Benth.!* Cl. maculata, *Benth. ap. Crueg.!*; *Sieb. Trin. n.* 64!: the plant described by Bentham differs by having more hairy leaves. Miconia eriophora, *Miq.!* Clid. agrestis, *DC.?*—A shrub, 4′–6′ high: its habit exactly like the preceding species, but the panicle less compound and not so loose, terminal on the branches, and the petals blunt; leaves 3″–4″ long, denticulate; calyx-teeth minute, tuberculiform, connected by the entire margin of the limb, deciduous; anthers bitubercled at the base on the anterior side; seeds pyramidal.—HAB. Trinidad!, *Sieb.*, *Cr.*, in woods; [Mexico!, Panama!, New Granada, Guiana!].

26. **T. strigillosa,** *Gr.* (*n. sp.*). *Branchlets,* petioles, and panicle somewhat *strigose* with rusty hairs; *leaves* elliptical-oblong or ovate-lanceolate, conspicuously *triplinerved,* glabrescent, or with scattered, appressed hairs, chiefly on the nerves; panicle infraterminal: *flowers* ternate, *shortly stalked,* and with two minute bracts; *petals* 5, *linear, acuminate;* stigma minute; berry . . . .—Leaves (3″–6″ long) entire and shortly ciliate: the lateral nerves 3‴–6‴ distant from the leaf-base; calyx strigillose, a little distant from the strigose bracts; teeth minute, exceeded by the petals; petals 1‴ long, half the length of the style; anthers 10, linear and subulate.—HAB. Trinidad!, *Cr.*, at Tocuche.

27. **T. berbiceana,** *Gr.* Branches glabrescent: petioles and panicle rusty-downy; *leaves* ovate, pointed, subcordate at the base, 3–5-*nerved,* glabrescent and ciliated-serrulate; panicle trichotomous: *flowers clustered,* all terminal; *petals* 5, *obovate;* stigma minute; berry 3-locular, furrowed.—*Clidemia,* DC. Miconia eriopoda, *Benth.!* M. clidemioides, *Steud.!* M. berbiceana, *Naud.* M. pleurocarpa, *Naud.* Melastoma pleurocarpum, *E. Mey.!* Decaraphe Fockeana, *Miq.!*—A shrub, 6′–8′ high, variable in the form and down of leaves; leaves 3″–6″ long, petioled; calyx-limb shortly 5-lobed; lobes broad, blunt, and minutely tubercled on the back; petals pale yellow or white; anthers curved, bitubercled at the base on the anterior side: beak of the ovary bearing only a minute, evanescent down; seeds oval.—HAB. Trinidad!, *Sieb.*, *Cr.*; [Guiana!, where it is common].

28. **T. lanata,** *Gr.* *Branches,* petioles, and panicle *woolly; leaves* ovate, pointleted, subcordate at the base, 3-*nerved,* crenate, *velvety,* hoary beneath; panicle trichotomous: *flowers clustered,* all terminal; *petals* 5, *obovate;* stigma capitate; berry 3-locular.—Clidemia, *DC.*, *ex Sieb. Trin. n.* 66! Staphidium, *Naud.*—A high shrub, at least 8′–14′ high; leaves 4″–8″ long, petioled; calyx-limb shortly 5-lobed: lobes broad, blunt, and minutely tubercled on the back; petals white, fragrant; anthers curved, bitubercled at the base on the anterior side; seeds oval.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Sieb.*, *Lockh.*, *Cr.*, in woods; [Guiana].

29. **T. spondylantha,** *Gr.* Branchlets *strigose; leaves* oblong or ovate-oblong, acuminate, 7-5-*plinerved,* rough above, rather hoary with appressed down beneath; *panicle spiciform,* interrupted; *petals* 5, *blunt;* stigma minute, berry 3-locular.—*Miq. Comment. Phytogr.* 2. *t.* 11 *A.*—Miconia, *DC.* Clidemia verticillata, *DC.* Cl. violacea, *DC.* Cl. coccinea, *DC.* Cl. spiciformis, *Crueg.!* (*non DC.*). Miconia Fockeana, *Miq.*—A common shrub of Guiana, usually 10′–12′ high, variable in the form and the ribs of the leaves, and in the branches being cylindrical or tetragonal: easily recognizable by the lateral pairs of nerves being distant from each other, and by the peculiar inflorescence, formed of distant 3–7-flowered clusters; down of the branches somewhat silky, yellowish, appressed; leaves 4″–12″ long, tapering a little towards the petiole; panicle compound only at the base; calyx-limb repand, with five minute tubercles on the back; anthers curved, without appendages; berry blue; seeds pyramidal.—Hab. Trinidad!, *Sch., Lockh., Cr.*, in savannahs and along riversides; [Guiana!, equatorial Brazil!, Peru!].

7. HETEROTRICHUM, *DC.; Naud.* (*l. c.* 18. *p.* 85).

Calyx campanulate: lobes 6–5–4, subulate, spreading. *Anthers* 12–10–8, oblong, inflexed above the ovary, opening first by a single terminal pore, and at length by fissures: cells distinct nearly to the top, curved. *Ovary* adherent, crowned by a neck, encircling the base of the style, bearing a minute, deciduous down. *Seeds* conical.—Shrubs, *with hispid down;* panicle *terminal.*

30. **H. niveum,** *DC.* Branches and petioles glandular-pilose and stellate-downy; *leaves* cordate-ovate, cuspidate, 5-nerved, *glabrescent above, whitish beneath* with stellate down; cyme corymbiform, straggling, few-flowered; calyx 5–6-fid: lobes filiform from a subulate base; ovary 10–12-locular: stigma blunt.—*Bonpl. Mel. t.* 44.—Melastoma patens, *Sw.* H. patens, *DC.*—A shrub, 6′–10′ high; leaves 3″–5″ long, about double the length of the petiole; calyx-tube at length globose, equalling the lobes; petals obovate, 6‴–8‴ long, rosy-white; anthers without appendages; berry 8‴–10‴ diam., hairy, black.—Hab. Jamaica!, all coll., common on the lower hills of the interior; [Cuba!, Haiti!, Portorico].

31. **H. hispidum,** *Gr.* Branches and petioles setose and furfuraceous; *leaves* ovate, pointed, 3-nerved, *rough* and substrigose *above,* setose on the nerves, and often bearded in the axils of veins beneath; panicle spreading; *calyx 4-fid:* lobes ovate and shortly apiculated; ovary 4-locular: stigma minute.—Melastoma, *Sw.* M. glandulosum, *Sw.* Tetrazygia, *Macf.* H. octandrum, *Macf.!* Cremanium glandulosum, *DC.* Miconia glandulosa, *Naud.*—A shrub; leaves 2½″–4″ long, petioled, covered on the upper side by short, thick, scattered bristles; calyx-tube at length globose, a little longer than the lobes; petals peach-coloured; anthers tubercled at the base on the anterior side; neck of the ovary very short and soon glabrescent.

α. Leaves rough with bristles above.

β. lævius, leaves less rough, without bristles above, and with fewer hairs beneath; calyx smaller and exceeded by the clawed petals.

Hab. Jamaica!, *Sw., Macf., Al., March, Wullschl.* (*β*), on the hills of the interior.

8. DIPLOCHITA, *DC.*

(Jucunda, *Cham.* Pogonorrhynchus, *Crueg.* Miconiæ *sect.* Adenosma, Diplochita, et Jucunda, *Naud.*)

Calyx campanulate: limb produced, spreading: teeth short, bluntish, or obsolete. *Anthers* 10–12, beaked-subulate, inflexed towards the bottom of the calyx, opening with a single terminal pore: cells connected. *Ovary* bearing a minute, deciduous down at the umbilicated top: upper margin thickened.—Trees *or* high shrubs, *not hispid;* leaves *large: upper side at length glabrous;* panicle *terminal, trichotomous, with accessory inferior branchlets:* flowers *bracteate, clustered or arranged in umbelliform cymes;* petals *blunt.*

32. **D. Fothergilla,** *DC.* *Leaves* ovate, acuminate, or pointed, 5-*nerved, subentire,* petioled, rusty-downy beneath, as are the branchlets; panicle constituted of *umbelliform cymes;* bracts obovate, large; calyx glabrous at its throat; petals 5–6, glabrous; ovary 6–3-locular: stigma peltate.—*Aubl. t.* 175. *Bonpl. Mel. t.* 32, 33.—Melastoma Tamonea, *Sw.*

Diploch. Swartziana, *DC.* D. florida, *DC. ap. Crueg.!* D. rosea, *Macf.* Miconia Fothergilla, *Naud.*—A tree, 10′–50′ high; leaves 3″–6″ long; pedicels 3–6, bibracteate at the top; calyx-tube somewhat furrowed: teeth roundish or obsolete; petals white and tinged with crimson, or sometimes rosy; anthers bitubercled at the base on the anterior side; seeds pyramidal.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, *Wils.*, in mountain woods to 4000′ alt., Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Sieb. Trin.* 60; *Cr.*; [Portorico!, French islands!; Mexico to Brazil!].

33. **D. mucronata,** *DC.* *Leaves* oval, cuspidate, 5-*plinerved, subentire,* petioled, rusty with appressed down beneath; panicle with *clustered flowers;* bracts obovate, large; calyx ciliate at the throat; petals 5–6, glabrous; ovary usually 4-locular: stigma minute, blunt.—*Bonpl. Mel. t.* 18. *Mart. Nov. Gen. t.* 274.—D. bracteata, *DC.* Miconia mucronata, *Naud.* —A small tree, 20′–30′ high; leaves 4″–8″ long; flowers subsessile, bibracteate; calyx-tube not furrowed: teeth ovate, bluntish, deciduous; petals white, fragrant; anthers bitubercled at the base on the anterior side.—HAB. Trinidad!; [Guiana! to equatorial Brazil!].

34. **D. serrulata,** *DC.* *Leaves* ovate or elliptical-oblong, 3–5-*nerved, crenate,* petioled, rusty-downy beneath, as are the branchlets; panicle with *clustered flowers;* bracts smaller than the calyx; calyx-tube furrowed; petals 5–6, tomentose on the outside; ovary 4–5-locular: stigma thickened, blunt.—Miconia, *Naud.* M. argentea, *DC.* M. elata, *DC.* —Melastoma acinodendron, *L. ex Sloan. sec. hb. Bks.* M. argentea, *Sw.!:* a hoary form. M. elata, *Sw.!:* the common, rusty form.—A tree, 30′–40′ high: branchlets compressed; leaves 4″–12″ long, 3″–4″ broad, densely and deeply crenate, variable in the shape and down; flowers subsessile; bracts ovate, deciduous; calyx-teeth very short, roundish or obsolete; anthers bitubercled at the base on the anterior side.

α. Leaves ovate, blunt, with a point, minutely cordate at the base, 5-nerved.

β. *leucocephala,* DC. Leaves elliptical-oblong, more or less pointed, blunt at the base, 3–5-nerved, rusty-glaucous and less downy beneath.—Decaraphe Hostmanni, *Steud.!*— An arborescent shrub, 20′–30′ high; leaves 3″–6″ long, 2″–3″ broad; petals white.—This is the common continental form.—HAB. Jamaica!, *Al.* (α), in mountain woods; Trinidad!, *Sch.* (α); *Cr.* (β); [Cuba! (α), S. Thomas; Mexico to Guiana! and Brazil!].

35. **D. parviflora,** *Benth.!* *Leaves* oval, cuspidate, 3-*nerved, subentire,* petioled, rusty or whitish beneath with a very short, appressed down; panicle with *clustered flowers; bracts oblong-linear,* half the length of the calyx-tube; petals 5, glabrous; ovary 3-locular: stigma minute.—D. caudata, *Crueg.* (*non DC.*). Miconia verticilliflora, *Steud. ap. Naud.*— A shrub, 18′–30′ high; leaves 3″–15″ long; branches of the panicle crowded, and divided like a corymb: flowers subsessile, bibracteate: bracts blunt, deciduous; calyx-tube somewhat furrowed, about $1\frac{1}{2}'''$ long, scarcely longer than the limb: teeth very short, roundish, deciduous; anthers produced into a short, blunt spur on the posterior, and somewhat glandular at the base on the anterior side.—HAB. Trinidad!, *Lockh.*, *Sch.*, in mountain woods; [Guiana!].

36. **D. sessilifolia,** *Gr.* *Leaves* large, elliptical-oblong or spathulate, protracted at the base and *clasping,* conspicuously *tripli-quintuplinerved, entire,* rusty-cinnamon or glaucous beneath with a very short, appressed down; panicle loose, with 2–3-flowered clusters; calyx-tube tomentose, not furrowed; petals 5, glabrous; ovary 3-locular: stigma minute, blunt.—*Plukn. Phyt. t.* 249. *f.* 2: a single leaf from Guiana.—Melastoma sessilifolia, *L. sp.* (*excl. syn. Br. Jam.*). Miconia Plukenetii, *Naud.*—A tree; leaves 8″–24″ long, somewhat wavy at the cuneate or blunt base: the lateral nerves in the bipedal leaf separating about 3″ above the base; panicle often 1′ long: inferior branches ascending, elongated, raceimiform; flower-heads bibracteate and lateral flowers bibracteolate, the central one ebracteolate: bracts oblong, bracteoles oblong-linear, equalling the calyx-tube; calyx-teeth lanceolate, bluntish, deciduous; petals white; anthers densely glandular at the base on the anterior side; seeds angular, with the testa loose, rugose.—HAB. Trinidad!, *Lockh.*, *Cr.*, in moist woods; [Guiana].

37. **D. tomentosa,** *Gr.* *Leaves* large, elliptical and cuneate at the base, *subsessile* or shortly petioled, conspicuously *triplinerved, entire,* glabrescent above, *rough with stellate down beneath;* panicle contracted, elongated: flowers clustered; calyx-tube tomentose, not furrowed; petals 5, glabrous; ovary 3–5-locular. stigma minute, blunt.—*Bonpl. Mel. t.* 16.—Melastoma, *Bonpl.* Miconia, *DC.* M. brunnea, *DC.* Jucunda tomentosa, *Benth.*

Pogonorrhynchus sessilis, *Crueg.!* P. amplexans, *Cr.!*: a form with the leaf-base auricled and the auricles clasping.—A tree, 30′ high, but reduced sometimes to low, shrubby forms; branches and panicle tomentose with stellate down; leaves 6″–24″ long, turning black in drying above, with a greyish or rusty persistent down beneath: the lateral nerves separating above the cuneate base; panicle racemiform: bracteoles short, deciduous; calyx-tube campanulate, produced beyond the ovary: teeth short, rounded, with a tubercle on the outside; petals white, with blue filaments and red anthers; anthers densely glandular at the base on the anterior side; berry blue: seeds angular, with the testa somewhat rugose.—HAB. Trinidad!, *Cr.*; [Guiana!, where it is common; Brazil!].

9. CONOSTEGIA, *Don; Naud.* (*l. c.* 16. *p.* 105).

Calyx operculate: closed operculum falling away from the truncate, cupuliform tube. *Anthers* 10–subindefinite, oblong, inflexed above the ovary, opening with a single terminal pore: cells distinct below the top. *Ovary* adherent, crowned with a glabrous neck, encircling the base of the style: stigma capitate. *Seeds* obovate.—Shrubs *or* trees, *usually not hispid;* leaves *petioled;* panicle *terminal.*

* *Panicle simply divided; flowers large.*

38. **C. procera,** *Don.* *Glabrous;* leaves elliptical-oblong, subtriplinerved; primary branches of the panicle 3–1-flowered, with the *lateral pedicels jointed at the middle; operculum conical* and abruptly pointleted: the point bluntish; petals 6–5, obliquely obovate, twice the length of the calyx-tube; anthers 18–10: connective with a minute tubercle on the back above the base.—*Bonpl. Mel. t.* 51.—Melastoma, *Sw.!*—A tree, according to Swartz and Purdie 40′–50′ high, but much varying in growth; leaves 2″–5″ long, entire: axils of nerves somewhat bearded; calyx, before its opening, 6‴–8‴ long; petals rosy or white; ovary 6–9-locular.—A remarkable variety exists in the form of a twining shrub, on which Dr. Alexander remarks: "Though in a dried state impossible to distinguish, yet, as they grow, the one is like a Horse-Chestnut, the other twining round trees and bushes like a Woodbine." This latter I believe I recognize in specimens collected by Mr. March, and would characterize thus:—

β. *Balbisiana,* DC. Leaves oval and blunt with a point; calyx shorter (5‴ long): operculum blunt (without the point of *a*); stigma smaller, not exceeding in breadth the thickened style.—C. gloriosa, *Macf.*, seems to be a form with narrower leaves.

HAB. Jamaica!, all coll., in mountain woods.

39. **C. rufescens,** *Naud.* Branchlets and panicle covered with a *rusty,* mealy *down;* leaves elliptical-oblong, tapering and cuspidate, triplinerved; primary branches of the panicle 3–7-flowered, with the *pedicels* shorter than the flowers and *without articulation;* calyx rusty: *operculum conical,* bluntish; petals 6, obliquely obovate, about the length of the calyx-tube; anthers 18 or fewer.—C. formosa, *Macf.*—A shrub, about 12′ high: branchlets obtuse-angled; leaves 3″–4″ long, obsoletely crenate or entire; calyx, before its opening, 3‴–5‴ long; ovary 6-locular: stigma peltate.—HAB. Jamaica!, *Pd.*, in woods of the eastern districts.

40. **C. subhirsuta,** *DC.* Branchlets and panicle covered with a *setose down;* leaves elliptical or elliptical-oblong, pointleted, triplinerved; panicle corymbiform: divisions 3–7-flowered: pedicels shorter than the flowers and without articulation; calyx glabrescent: *operculum convex,* quite blunt; petals 10–6, obliquely obovate; anthers 20 or subindefinite. —Melastoma arborescens, *Sieb. Mart.* 119! (*non Aubl.*).—A shrub, 10′–16′ high: branchlets subcompressed; leaves 4″–10″ long, obsoletely crenate or entire; calyx before its opening nearly globose or obovate, 3‴–4‴ diam.; petals white; ovary 20–12-locular: stigma peltate. —HAB. Jamaica!, *Waters,* in mountain woods; Dominica!, *Imr.*; Trinidad!, *Pd., Cr.*; [Cuba, French islands!; Mexico, New Granada].

** *Panicle compound; flowers smaller.*

41. **C. superba,** *Naud.* Glabrous; leaves ovate or oval, subtriplinerved; secondary branches of the panicle ending with a 3–5-flowered, umbelliform cyme: the pedicels equalling the flower; *operculum* continuous with the calyx-tube, *conical, pointed;* petals 5–6,

obliquely obovate, the length of the calyx-tube; anthers 12–18.—C. glabra, *Macf.!* C. alternifolia, *Macf.*—An arborescent shrub: branches obtuse-angled; leaves bluntish at the pointed top, obsoletely denticulate or entire, of unequal growth in the pair: the larger ones 6″–8″ long, their opposite ones usually 2–3 times smaller, sometimes wanting: the leaf-ribs lined beneath with some lateral hairs; calyx before its opening 2‴–3‴ long, ellipsoidal; petals white; ovary 5-locular.—HAB. Jamaica!, *Macf.*, *Wils.*, in woods.

42. **C. calyptrata,** *Don.* Glabrous; leaves oblong or elliptical-oblong, subtriplinerved; secondary branches of the panicle ending with a 3–7-flowered cyme: the pedicels unequal; *operculum* somewhat *protruding* over the constricted calyx-tube, *conical, mucronate;* petals 5, elliptical, about the length of the calyx-tube; anthers about 15.—*Bonpl. Mel. t.* 46.—An arborescent shrub with tetragonal branches; leaves 3″–8″ long, bluntish at the pointleted top, subentire; the lateral and longer pedicels about the length of the flower; calyx before its opening 3‴ long: the operculum about double the length of the tube; petals white; ovary 7–8-locular.—HAB. Montserrat, Dominica!, *Imr.*, S. Vincent!, *Guild.*, in mountain woods; [French islands!].

43. **C. montana,** *Don.* Branchlets covered with a whitish, mealy down; leaves elliptical, bluntish at the pointleted top, tripli-quintuplinerved; panicle corymbiform: pedicels of the secondary branches unequal, short; *operculum* somewhat *protruding* over the semiglobose calyx-tube, *convex-conical, bluntish;* petals 5–6, obovate, exceeding in length the calyx-tube; anthers about 15 or less.—Melastoma, *Sw.!* C. alpina, *Macf.*—A shrub, 10′–2′ high, with tetragonal branches; leaves subentire, 3″–5″ long and sometimes larger, the two opposite ones often of unequal growth; pedicels 3–5-nate, the central reduced and the lateral ones shorter than the flower; calyx before its opening 2½‴ long: the operculum a little longer than the tube; petals white; ovary 5-locular.—HAB. Jamaica!, *Sw.*, in mountain woods.

10. TETRAZYGIA, *Rich. reform.; Naud.* (*l. c.* 15. *p.* 342, *exclus. sp.*).

(Naudinia, *Rich. Cub.* Harrera, *Macf.* Miconiastrum, *Naud.* Miconiæ *sect.* Laceraria, *Naud.*)

Calyx campanulate: tube contracted at the top; limb produced, spreading, with the teeth short, bluntish, or wanting. *Anthers* 8–10 (–12), beaked-subulate, inflexed above the ovary, opening with a single terminal pore: cells connected. *Ovary* adherent, crowned by a glabrous, denticulate neck, encircling the base of the style: style long-exserted, with the stigma minute.—Low trees *or* shrubs, *not hispid;* leaves *petioled, at length glabrous above, often whitish with scaly or tomentose down beneath;* panicle *terminal: cymes corymbiform, with the flowers stalked and the bracteoles minute or none;* petals *obovate.*

Sect. 1. EUTETRAZYGIA.—*Calyx-limb regularly divided or subentire. Pedicels neither jointed nor bearing bracts at the top.*—Branchlets, panicle and under side of leaves whitish with scaly or powdery down.

44. **T. angustiflora,** *Gr. Leaves* elliptical or elliptical-lanceolate, abruptly taper-pointed, *triplinerved,* whitened beneath by appressed stellate down or scales; panicles raceмiform; calyx-tube 2–3 times as long as the limb: teeth 5, roundish or obsolete; *anthers* 10: *pore turned outwards* on the obliquely truncate top; ovary 3-locular.—*Bot. Mag. t.* 4383.—Diplochita, *Benth.!* Miconiastrum Lambertianum, *Naud.* T. elæagnoides, *Hook.* (*non DC.*). Harrera gerascanthoides, *Macf*—A low tree, 20′ high, remarkable for the white, powdery down of the branchlets and the inflorescence; leaves 3″–5″ long, variable in breadth, bluntish at the tapering point, entire: petiole 1″ long; panicle oblong: the primary branches terminated by 5–7-flowered, corymbiform cymes; flowers white, large, but with a narrow calyx; petals 5 ("rarely 4," *Macf.*), white, 4‴–5‴ long, obovate or obovate-oblong, pointed or bluntish; anthers yellow, slightly biauriculated at the base on the anterior side; style crimson; berry "black."

α. Leaves whitish beneath with stellate down.

β. *argyrophylla.* Leaves elliptical-lanceolate, leprous with a scaly epidermis beneath.—*Rich. Cub. t.* 44 *bis:* wrong in certain analytical details, as for instance the bristles on the ovary, ascribed by Richard to his genus *Naudinia*, but which do not in reality exist.—Naudinia argyrophylla, *Rich.* N. chrysophylla, *Rich.:* this appears to be the less candicant

form of the same, the seeds being simply clavate-conical in the common silver-coloured type. Harrera trinervis, *Macf.* !—A shrub, 5′–10′ high: the branchlets covered with scales, which at length becoming loosened and torn, give the appearance of a powdery down, but less regularly stellate than in *α*; the leprous under side of the leaves either white or pale glaucous, sometimes passing into stellate down; flowers shortly stalked; petals white, usually 5 ("4–6," *Rich.*); berry "purple."

HAB. Jamaica! (*α* and *β*): all coll., in mountain-woods and valleys; Bahamas!, *Swains.*; [Cuba!, Haiti!, Mexico!].

45. **T. elæagnoides,** *DC.* *Leaves* elliptical-lanceolate or lanceolate, sharply taper-pointed, *trinerved*, whitened beneath by tomentose down; panicle corymbiform, loose; calyx-tube twice as long as the limb: teeth 4, roundish or obsolete, usually exceeded by an exterior subulate appendage; *anthers* 8: *pore* minute, *turned outwards;* ovary 4-locular.—*Vahl, Ic. Amer. t.* 28. *Bonpl. Mel. t.* 13.—Melastoma, *Sw.!* Tetraz. laxiflora, *Naud.!*: a slender form, with richer, sometimes racemiform panicle (*Linden, Cub.* 2094, 2026).—A shrub; the down less appressed, and the leaves narrower than in the preceding species; petals 4, rosy or white, 3‴–4‴ long, obovate-oblong or oblong.—HAB. Caribbean Islands; [Cuba! to Martinique].

46. **T. discolor,** *DC.* Leaves ovate or ovate-lanceolate, sharply pointleted, subtriplinerved, white beneath, with appressed, scaly down; panicle corymbiform, contracted, many-flowered; *calyx-tube as long as the limb:* teeth 4, roundish (sometimes pointed); *anthers* 8: *pore turned inwards* on the bluntish or transversely truncate, inflexed top; ovary 4-locular.—*Jacq. Amer. Pict. t.* 125. *Vahl, Ecl. t.* 7. *Bonpl. Mel. t.* 34.—Melastoma, *L.* M. acuminata, *Vahl.* M. elæagnoides, *Sieb. Trin.* 61!—A low shrub; leaves entire, the same size as in *T. angustiflora*, but flowers densely crowded, fastigiate and much smaller, the calyx being 2‴ long and the petals even less: these oval, whitish; berry 2‴ diam., blue; seeds obovate, somewhat angular.

α Branchlets leprous; leaves quite entire.

β. villosa. Branchlets, panicle, and petioles villous, with hairs forked at the top; leaves serrulate (or sometimes entire).

HAB. S. Kitts!, Montserrat, Dominica!, *Imr.* (*β*); S. Vincent!, *Guild.*, in mountain woods; [French islands!, *Sieb. Mart.* 117].

Sect. 2. LACERARIA.—*Calyx-limb irregularly torn: pieces* 2–3; *pedicels pointed, bearing two minute bracts at the top.*—Shrubs, wholly glabrous; branchlets cylindrical.

47. **T. cornifolia,** *Gr.* *Leaves* ovate-lanceolate or lanceolate, taper-pointed, subtriplinerved, *entire*, glabrous; panicle spreading; calyx-tube furrowed, a little longer than the torn limb; *anthers* 10: *pore turned inwards* on the transversely truncate, curved top; ovary 3-locular.—*Bonpl. Mel. t.* 41.—Conostegia, *Ser.* Miconia, *Naud.*—A shrub; leaves 1″–6″ long; petals white, obovate, about 3‴ long, equalling the length of the calyx, but exceeded by the stamens; anthers tumid at the base.—HAB. S. Vincent!, *Guild.*; [Martinique!].

48. **T. semicrenata,** *Gr.* Leaves ovate or lanceolate, produced into a narrow, tapering point, sub-3-nerved, *sinuate-dentate* or crenate-repand towards the middle part, glabrous; panicle spreading; calyx-tube furrowed, twice the length of the torn limb; *anthers* 10: *pore turned inwards* on the transversely truncate, curved top; ovary 3-locular.—*Bonpl. Mel. t.* 31.—Melastoma acuminatum, *Sieb.! Mart.* 116 (*non Vahl*). M. adpressum, *Prl.!*, *ibid.* Conostegia semicrenata, *Ser.* Miconia, *Naud.*—A shrub; leaves variable, 6″–1″ long, 3″–½″ broad; petals white, of the same size and proportions as in the preceding, nearly allied species; anthers biauriculated at the base on the anterior side.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba!, French islands!].

11. MICONIA, *R.P. reform.*

(Miconia, *sect.* Eumiconia, *Naud. exclus. sp.* Glossocentrum, *Crueg.* Pachyanthus, *Rich.* Sarcomeris, *Naud.* Hartigia, *Miq.*)

Calyx turbinate, semiglobose or shortly campanulate: limb reduced; teeth short, bluntish or obsolete. *Anthers* 10–8 (–12), oblong-linear and usually tapering towards the top

(rarely broader), inflexed above the ovary, opening with one or two pores: cells connected or rarely distinct. *Ovary* adherent, convex and umbilicated at the glabrous top.—Shrubs *or* trees, *not hispid; panicle terminal:* flowers *usually sessile;* petals *blunt.*

Sect. 1. EUMICONIA.—*Anthers oblong-linear, tapering towards the one-pored or partitioned top: cells connected.*—Panicle trichotomous or contracted: ultimate branches with clustered or serial flowers.

§ *Panicle trichotomous.*

† *Seeds pyramidal, with the embryo usually inflexed.*

* *Leaves whitened beneath.*

49. **M. argyrophylla,** *DC. Tetragonal branches* and under side of the leaves hoary with a very short appressed down; *leaves* elliptical-oblong, trinerved, glabrous above, *silvery beneath,* petioled; panicle trichotomous, hoary: flowers serial; calyx-tube furrowed; anthers 10: filaments inflexed in the bud; ovary 3-locular: *stigma minute.—Sloan. t.* 198. *f.* 1. *Mart. Nov. Gen. t.* 284.—M. holosericea, *Steud.! in Pl. Hostm.* (*non DC.*). M. holosericea, *a, Crueg.!*—A tall shrub, usually about 20′ high, but variable in growth; leaves 4″–12″ long, pointed, minutely denticulated or subentire; bracts minute, subulate; calyx-tube shortly campanulate, at length globose: teeth shortly ovate, blunt; petals white or flesh-coloured, obovate; connective bitubercled at the base on the anterior and tumid on the posterior side.—HAB. Jamaica (*Sl.*), Barbadoes; Trinidad!, *Lockh., Cr., Pd.,* in savannahs and woods; [S. Thomas; Mexico! to Guiana!, Brazil! and Bolivia].

50. **M. holosericea,** *DC. Compressed-cylindrical branches* and under side of the leaves hoary, with a short, appressed, white down; *leaves* ovate-oblong, or elliptical-oblong, subcordate at the base, subtriplinerved, petioled, shining glabrous above, *silvery beneath;* panicle trichotomous, hoary: flowers serial; calyx-tube furrowed; anthers 10; filaments nodding in the bud; ovary 3-locular: *stigma funnel-shaped.—Bonpl. Mel. t.* 23, 24.—Melastoma, *L.* M. albicans, *Sw.* Miconia detergibilis, *DC.* M. rufescens, *Macf.* M. holosericea, *β,* montana, *Crueg.!*—A shrub, 4′–12′ high; leaves 4″–6″ long, bluntish or pointleted, subentire; bracts minute, deciduous; calyx-tube ovate, at length globose: teeth minute or obsolete; petals white; anthers biauricled at the base; berry blue.—HAB. Jamaica!, all coll., to Trinidad!, *Lockh., Sch., Cr.,* common in all the West Indian islands, in savannahs and thickets; [Veraguas! to Peru! and Bolivia, Venezuela, Guiana!, Brazil!].

** *Leaves not white with down beneath.*

51. **M. impetiolaris,** *Don. Branches rusty-downy; leaves* obovate-oblong, pointed, or blunt, *auricled at the subsessile* or very shortly petioled *base,* triplinerved, at length glabrous above, rusty-downy beneath; panicle trichotomous, spreading: primary branches interruptedly spiciform, with clustered flowers; calyx-tube at length obsoletely furrowed; anthers 10; ovary 3-locular: *stigma minute.—Bonpl. Mel. t.* 29.—Melastoma, *Sw.!* Miconia macrophylla, *Macf.*—A shrub, about 8′ high, variable in the base of the leaves, which are either stem-clasping or very shortly (1‴–2‴) petioled, the lateral ribs always proceeding from above the base of the midrib, easily recognized by its large (8″–12″ long) leaves, narrowing towards their small auricles; calyx-tube shortly campanulate, rusty-downy: teeth minute or obsolete; petals white, 1‴–2‴ long; anthers bitubercled at the base; berry blue.—HAB. Jamaica!, *Macf., Dist., M'Nab, Pd., Al.,* in damp mountain-woods; [Guadeloupe!, S. Thomas; Venezuela, Panama!, Ecuador!, equat. Brazil!].

52. **M. splendens,** *Gr. Branches rusty-downy; leaves* elliptical or elliptical-oblong, bluntish, *narrowed at the petioled base,* triplinerved, glabrous above, glabrescent beneath; panicle trichotomous, spreading, terminated by corymbiform cymes: ultimate clusters 3–1-flowered; calyx-tube not furrowed; anthers 10; ovary 3-locular: *stigma funnel-shaped.—Plum. t.* 140 *sec. Sw.:* bad.—Melastoma, *Sw.!* Cremanium, *Macf.* Miconia obovalis, *Naud.* M. elliptica, *Macf.*—A shrub; leaves 6″–8″ long, crenulate or repand: petiole scarcely ½″ long, usually winged upwards; calyx-tube ovate, powdery: teeth minute or obsolete; petals white, 1‴–2‴ long; anthers biauricled at the base; berry blue.—HAB. Jamaica!, *Sw., Macf., Pd., Al.;* Dominica!, *Imr.,* in mountain woods.

53. **M. prasina,** *DC.* *Leaves glabrous,* oblong or elliptical-oblong, acuminate or pointleted, *triplinerved,* petioled; panicle trichotomous, powdery: flowers clustered or shortly serial; calyx-tube at length furrowed; anthers 10; ovary 3(–4)-locular: stigma thickened, blunt.—Melastoma, *Sw.* M. trinervium *et* quinquenervium, *Salzm. Pl. Bah.!* Miconia attenuata, *DC., Crueg.!* M. collina, *DC.* M. macrophylla, *Steud.!* M. palustris, *Macf.* —A common shrub, 4′–25′ high, variable in growth, texture, and margin of the leaves, shape of calyx, and size of flower; leaves 4″–8″ long, usually somewhat leathery, subentire or crenate-repand; calyx-tube ovate; petals whitish, 1‴–2‴ long; anthers biauricled at the base; berry blue or almost black.—HAB. Jamaica!, all coll., to Trinidad!, *Cr.;* in woods and open situations; [Haiti; Panama to Brazil!].

†† *Seeds obovate, with the embryo straight.*

54. **M. lævigata,** *DC.* *Leaves glabrous* or glabrescent, ovate-lanceolate, taper-pointed, *trinerved,* petioled; panicle trichotomous, powdery: flowers shortly serial; calyx-tube at length furrowed; anthers 10; ovary 3-locular: stigma blunt.—*Aubl. t.* 159. *Bonpl. Mel. t.* 21: Mel. pyramidalis (*a denticulate form with small flowers*); *t.* 35: Mel. pendulifolia (*the same with larger flowers*).—Mel. lævigata, *Aubl.* Miconia pyramidalis, nicotianæfolia, pendulifolia, havanensis, trichotoma, ceanothina, *DC.* M. affinis, microcarpa, parviflora, *Macf.*—A shrub, usually 4′–10′ high, extremely common in the West Indies, variable chiefly in the margin of the leaves, the down, and the size and arrangement of the flowers: safely to be distinguished from *M. prasina,* DC., by the lateral leaf-ribs proceeding from the base of the midrib; leaves 4″–10″ long, entire or denticulate; calyx-tube ovate; petals white or flesh-coloured, 1‴–3‴ long; connective biauricled at the base on the anterior, tubercled on the posterior side; berry black.—HAB. Jamaica! to Trinidad!, all coll., *Sieb. Tr.* 67, everywhere in all the islands; [Cuba! and Mexico! to Panama! and Guiana].

55. **M. myriantha,** *Benth.* *Leaves glabrous* above, glabrescent beneath, oblong-lanceolate, taper-pointed, *trinerved,* petioled; panicle spreading, many-flowered, powdery and glabrescent: ultimate *flowers shortly pedicellate;* calyx-tube not furrowed; anthers 10; ovary 3-locular: stigma minute, blunt.—M. tristis, *Spring!* M. depauperata, *Gardn.!* M. melanodendron, *Naud.!* Glossocentrum collinum, *Crueg.!* Melastoma pendulum, *Salzm. Pl. Bah.!*—A shrub, 8′–10′ high; leaves 4″–5″ long, black in drying, rounded at the base, entire: petiole 3‴–4‴ long; calyx-tube ovate, powdery: teeth minute; petals white, 1‴ long, obovate-oblong, equalling the length of the calyx; anthers biauricled at the base or spurred: the spur variable in length; berry 1‴ diam.—HAB. Trinidad!, *Cr.;* [New Granada!, Guiana!, Brazil!].

§§ *Panicle contracted, spiciform. Seeds obovate.*

56. **M. multispicata,** *Naud.* *Branchlets,* petioles, and under side of leaf-ribs *tomentose;* leaves elliptical, pointleted, rounded at the base, subtriplinerved, with the exception of the under side of the ribs glabrous; panicle contracted, interrupted below: clusters of flowers on its primary, reduced branches; calyx-tube not furrowed, hoary-downy; anthers 10, with the terminal *pore partitioned;* ovary 3-locular: *stigma capitate.*—Cremanium integrifolium, *Macf.*—Leaves 3″–6″ long, papery, shining, entire: petiole 6‴–8‴ long; calyx-tube ovate: teeth ovate; petals somewhat clawed, roundish, 1‴–2‴ diam., reflexed and shorter than the calyx-tube; anthers biauricled at the base: filaments shortly inflexed in the bud; berry black.—HAB. Jamaica!, *Pd., Al.*

57. **M. trinervis,** *Gr.* *Glabrous;* leaves elliptical-lanceolate, tapering at both ends, shortly petioled, trinerved; panicle contracted, interrupted: clusters of flowers subsessile on the primary axis; calyx-tube not furrowed, glabrous; anthers 10, with the terminal *pore partitioned;* ovary 3–4-locular: stigma blunt.—Melastoma, *Sw.!* Miconia hexaptera, *Naud.* M. spicata, *Macf.!* Cremanium trinerve, *Macf.*—A shrub, 6′–8′ high, with the younger branches tetragonal; leaves 6″–12″ long, obsoletely crenate or subentire; calyx-teeth minute or obsolete; petals "oval, white."—This species, as well as the following one, presents the ovary crowned by a neck, encircling the base of the style: but as this structure is not observable in *M. multispicata,* so nearly related to this, no reliance can be put on the character.—HAB. Jamaica!, *Pd., M'Nab, Al., Wils.,* in mountain thickets.

58. **M. furfuracea,** *Gr.* *Branchlets* and petioles *rusty-tomentose* with furfuraceous

down; leaves oval or ovate, bluntish, rounded at the base, subtriplinerved, glabrous, glabrescent on the ribs beneath; panicle contracted, interrupted: *clusters of flowers* 3–1-flowered *on the primary branches and equalling them;* calyx-tube obsoletely furrowed, glabrescent; petals clawed; anthers 10, with the terminal *pore not partitioned;* ovary . . . : stigma minute.—Melastoma, *Vahl.*—Leaves 6″–8″ long, papery, entire or repand: petiole 1″–2″ long; panicle shorter than the leaves: the axis rusty-tomentose; calyx campanulate, 3‴–4‴ long: the limb entire or obsoletely lobed; anthers without appendages at the base: cells exceeding the connective.—Bonpland's *Melastoma cordato-ovalis* (*Mel. t.* 49), a species neglected by subsequent authors, gives an idea of the habit of our plant, though differing in its more compound inflorescence.—HAB. Dominica!, *Imr.*

Sect. 2. ARRHENOTOMA.—*Anthers ovate-oblong: cells separated by a longitudinal furrow: pores 2, terminal.*—Panicle corymbiform, with the central flowers stalked.

59. **M. angustifolia,** *Gr.* Leaves linear-lanceolate, acuminate, trinerved, glabrescent above, white beneath with powdery down, as are the branchlets; primary branches of the panicle 7–3-flowered: *the alar flowers as long as their pedicel;* calyx-tube not furrowed, powdery; *anthers* 8, nodding; ovary 4-locular: stigma minute.—*Vahl, Ic. Amer. t.* 26. *Bonpl. Mel. t.* 10.—Melastoma, *Sw.* Tetrazygia, *DC.*—A shrub; leaves 1½″–2″ long, crowded, entire; petiole 2‴–6‴ long; panicle shorter than the uppermost leaves; calyx about 1‴ long: tube ovate: teeth triangular; petals whitish, equalling the length of the calyx; style exserted.—HAB. Jamaica (*Sw.*); Montserrat, Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 127; *Lockh.;* [French islands].

Sect. 3. HARTIGIA.—*Anthers oblong: cells separated by a longitudinal furrow: pore partitioned or single, anterior on the obliquely truncate top. Seeds obovate.*—Panicle interrupted, subcontracted: flowers serial, on subscorpioid branchlets; bracts blunt, fringed; stigma included.

60. **M. racemosa,** *DC.* Leaves glabrous or glabrescent, elliptical or oblong, trinerved, ciliate, petioled; panicle interrupted: flowers unilateral on the branchlets; *calyx-tube* at length *furrowed;* anthers 10, with the pore partitioned; ovary 3(–5)-locular: stigma minute.—*Bonpl. Mel. t.* 27.—Melastoma, *Aubl., Mey. Fl. Esseq.!* Hartigia spectabilis, *Miq.* Mic. circumsecta, verticillata, *et* serrulata, *Macf.*—A shrub, 3′–10′ high, very variable in the form of the leaves: branchlets obtuse-angled, at length cylindrical, very glabrous, but usually setose at the nodes; leaves 4″–6″ long, papery, polished (but the nerves impressed on the upper and prominent on the under side), denticulate or repand; calyx-tube semiglobose, glabrous: teeth minute; petals white or red, 1‴–2‴ long: anthers tumid at the base; berry purple or black.

α. Leaves elliptical-oblong, or oval.

β. ciliata, DC. Leaves oblong-lanceolate, usually bluntish on both ends.—*Bonpl. Mel. t.* 28.—Hartigia oblongifolia, *Miq.* Micon. calophylla, *Crueg.!*—The common, West Indian form.

HAB. Jamaica!, *Pd., Al.,* to Trinidad!, *Lockh., Sch., Pd., Cr.,* in open and woody situations; [Haiti and Mexico to Guiana!, Brazil! and Peru].

61. **M. lacera,** *Naud. Branches bearded;* leaves ovate or oblong-lanceolate, trinerved, crenate, ciliate and with scattered hairs on the surface, petioled; panicle interrupted, bearded and downy: flowers unilateral on the branchlets; *calyx-tube not furrowed:* limb spreading, with the duplicated *teeth* triangular and torn, *fringed with long hairs;* anthers 10–12; ovary 3(–5)-locular: stigma minute.—*Bonpl. Mel. t.* 5.—Clidemia, *DC.* Mic. villosissima, *Crueg.!*—A shrub, 6′–8′ high: the hairs, which cover the branchlets and the panicle, soft, very long (usually 4‴–5‴), somewhat scattered, rusty or "almost black;" calyx-tube semiglobose; petals white, 1‴–2‴ long, exceeded by the hairs of the calyx.—HAB. Trinidad!, *Lockh., Pd., Cr.,* in open and moist situations; [Martinique; Mexico! to Ecuador! and equat. Brazil!].

12. EURYCHÆNIA, *Gr.*

(Miconiæ *sp., DC., Naud.*)

Calyx turbinate or semiglobose: limb reduced; teeth short, bluntish or obsolete. *An-*

thers 10, obovate, without appendages, hanging from the deeply inflexed filament above the ovary: cells connected, opening with a large, anterior, longitudinal fissure, reaching almost to the base, and common to both of them: connective produced into a very short tail, continuous with the filament. *Ovary* adherent, depressed and glabrous at the top. *Berry* 3(–4)-locular: cells dispermous. *Seeds* large, triangular: rhaphe enlarged; embryo inflexed, with the cotyledons plaited.—Shrubs *not hispid, with a rusty down;* panicles *terminal, and accessory ones from the axils:* flowers *clustered or fascicled;* petals *blunt.*

62. **E. punctata,** *Gr.* *Leaves* lanceolate, acuminate, triplinerved, glabrous above, *golden-rusty with leprous down beneath;* panicle rusty-leprous: *flowers clustered* or shortly serial; anthers exceeded by the style; stigma funnel-shaped, truncate.—*Bonpl. Mel. t.* 40: the fructiferous state, in which the berries appear stalked, only one in the cluster being developed.—Miconia, *Don.* M. discolor, *Macf.!* M. fulva, *Crueg.!* (*non DC.*).—A shrub, about 6′ high, with the compressed branchlets leprous; leaves 3″–5″ long, with a metallic lustre and usually dark-coloured dots beneath, tapering into the petiole, subentire or crenulate: petiole 2‴–4‴ long; panicle pyramidal, exceeded by the leaves: primary branches racemiform, spreading, rather rigid, secondary ones equalling the flower-clusters; calyx turbinate, rusty-leprous, 1‴ long, half the length of the style; petals whitish, roundish, scarcely 1‴ long.—Hab. Jamaica!, *Macf.*, *Al.*, in mountain woods; Trinidad!, *Cr.;* [Haiti; Pará, *Spruce*].

63. **E. fulva,** *Gr.* (*n. sp.*). *Leaves* ovate or oblong, pointleted, with a narrow point, trinerved or subtriplinerved, glabrous above, *rough* with scattered stellate down, and rusty-tomentose on the ribs *beneath* or glabrescent; panicle rusty-tomentose or powdery: *flowers shortly stalked,* ternate.—An arborescent shrub, 25′–30′ high, with the branchlets compressed, rusty-tomentose; leaves 6″–10″ long, concolor and when dried rusty on both sides, variable in breadth, bluntish at the base, subentire: petiole thick, 4‴–8‴ long, and ribs prominent beneath; panicles pyramidal, slender, terminal and axillary, stalked, exceeded by the leaves: primary branches racemiform; pedicels 1‴ long, equalling the berry; berry globose, 3-locular, with longitudinal, distant ridges: cells dispermous; seeds shining, black, convex on the back, flat and keeled on the ventral side, almost as long as the cells.—Hab. Trinidad!, *Lockh.*, *Pd.*, in mountain woods.

Miconia ferruginea, DC., of Haiti, is probably a third species of this genus, the anthers of which Naudin has described as agreeing with our generic character ("antheris obovatis, poro maximo fere in rimam producto hiantibus"). According to Naudin's description, it only differs in having tetragonal branches, dentate leaves, and longer pedicels. *Mic. astralasia*, DC., is perhaps a synonym. It seems to occur in Jamaica, as from M'Fadyen's description ("anthers opening by a longitudinal fissure, being widest at the apex; pedicels ½″ in length") his *Chænopleura stelligera* from Portland woods is probably the same plant, though the berry be described by him as many-seeded: it must, however, not be confounded with the similar *Mic. rubiginosa*, DC., collected by Sir R. Schomburgk in Haiti, which is a true *Miconia*.

13. CHÆNOPLEURA, *Crueg.* (*non Rich.*).

Calyx semiglobose: limb reduced: teeth rounded or obsolete. *Anthers* 10, obovate, hanging from the deeply inflexed filament above the ovary: cells connected, opening with a large, anterior, longitudinal fissure, common to both of them: connective produced into a slender tail, continuous with the filament, and somewhat auricled at the base. *Ovary* adherent, crowned with a glabrous, denticulate neck, 3-locular: ovules in each cell indefinite. *Berry* small, furrowed. "*Seeds* angular: embryo inflexed, with the cotyledons plaited" (*Cr.*).—Trees, *not hispid:* branchlets *tetragonal;* leaves *large, sometimes whorled;* panicle *terminal (or sometimes axillary), very compound:* flowers *very small, clustered or shortly serial.*

64. **Ch. ferruginea,** *Crueg.!* Branches, petioles, and *under side of leaves rusty- or hoary-tomentose* with a very short appressed down; leaves elliptical-oblong, pointleted, 3–5-nerved, regularly crenate; panicle trichotomous (or with whorled branches), pyramidal: flowers small, numberless.—*Sl. t.* 196. *f.* 1. *Bonpl. Mel. t.* 23.—Melastoma fulva, *Bonpl.* Miconia, *DC.* M. longifolia, *a*, *Naud.* M. Cruegeriana, *Naud.*—A tree, 30′–40′ high; leaves 6″–12″ long, rounded at the base, glabrous above: petiole 1″–2″ long; petals white, obo-

vate, ½‴ long; berry yellow, 1‴ diam.—HAB. Jamaica (*Sl.*)!; Trinidad, *Pd.*, *Cr.*, in mountain woods; [Central America, Guiana, Brazil].

65. **Ch. longifolia,** *Gr.* *Glabrous* or glabrescent; *leaves* oblong-lanceolate, acuminate, triplinerved, entire or repand, *concolor;* panicle powdery, trichotomous, exceeded by the uppermost leaves: flowers clustered.—*Aubl. t.* 170.—Melastoma, *Aubl.* Miconia, *DC.* M. Lambertiana, *DC.* M. longifolia, β, *Naud.*—Leaves 4″–8″ long, 1″–3″ broad, turning black in drying, tapering at the base, quite glabrous, or the younger ones with a few scattered, stellate hairs beneath: the lateral ribs separating only 1‴ above the base.—The materials, communicated by Mr. Crueger, are incomplete, and the flowers in too young a state to be examined: but according to an original specimen, which I have compared in the British Museum, Crueger's determination of the species is correct.—HAB. S. Vincent; Trinidad!, *Cr.;* [Guiana!, Brazil].

14. PLEUROCHÆNIA, *Gr.*

(Miconiæ *sp.*, *Naud.*)

Calyx campanulate: limb reduced: teeth bluntish. *Anthers* 10, ovoid-oblong, hanging from the deeply inflexed filament above the ovary: cells distinct, each bursting (before anthesis) by a longitudinal fissure. *Ovary* adherent, crowned at the top with a glabrous neck, encircling the base of the style. *Seeds* pyramidal.—Shrubs, *not hispid:* branchlets *compressed-tetragonal;* leaves *leathery, glabrous, petioled;* panicle *terminal:* peduncles *articulated at the top, 1–few-flowered;* berry *not furrowed.*

66. **Pl. rigida,** *Gr.* *Leaves* rigid, *ovate,* bluntish at the top, subcordate at the base, 3-nerved; *panicle* loose, *rusty-tomentose:* branches corymbiform and peduncles single-flowered; petals clawed; ovary 3-locular: style thickish, with a minute stigma.—Melastoma, *Sw.!* Cremanium, *Macf.*—A shrub, 4′–6′ high; leaves 3″–6″ long, thick, like those of *Pachymeria*, either pointed or rounded at the top, subentire, perfectly glabrous, but somewhat roughish on the margin and sometimes upon the under side of the ribs: petiole rusty-tomentose, 8‴–2‴ long; calyx rusty-tomentose and glandular: teeth rounded; petals white, leathery, ovate, about the length of the calyx, 2½‴ long; anthers without appendages; berry 3‴–4‴ diam., crowned with the persistent calyx-limb.—HAB. Jamaica!, on the summit of the Blue Mountains, *Macf.*, *M'Nab.*

67. **Pl. quadrangularis,** *Gr.* *Leaves* flexible, *oblong-lanceolate,* acuminate, rounded or tapering at the base, 3-nerved; *panicle* erect, *glabrous:* branches racemiform, rigid, and peduncles bearing a single or three clustered, bracteolate flowers; ovary 5-locular: style thickened upwards, with the stigma capitate.—Melastoma, *Sw.!* Cremanium, *DC.* Miconia, *Naud.:* the analysis of the anther and the ovary incorrect. Chænopleura, *Macf.*—A shrub, 12′ high; leaves 3½″–6″ long, entire, with a narrow tapering point, paler beneath, glabrous: petiole 6‴–18‴ long, ribs reddish; calyx glabrous, 2‴ long: teeth triangular; petals oval, rather shorter than the length of the calyx, "white, with a yellow tinge;" anthers tubercled at the base on the posterior side; berry 2‴ diam., purple, pruinose.—HAB. Jamaica!, in the Blue Mountain range, *Macf.*, *Pd.*, *Al.*, *Wils.*, *March.*

15. OCTOPLEURA, *Gr.*

(Sagræœ *sp.*, *Naud.*)

Calyx shortly campanulate: limb reduced: teeth 4, short or obsolete. *Anthers* 8, elliptical-oblong, inflexed above the ovary, produced at the base into a short, conical spur: cells distinct, each opening with a terminal pore. *Ovary* adherent, crowned at the top by a glabrous, furrowed neck. *Berry* 8-ribbed: ribs longitudinal, prominent. *Seeds* pyramidal.—A low shrub, *not hispid;* leaves *petioled;* cymes *corymbiform, axillary:* pedicels *jointed at the top;* petals 4, *bluntish at the taper-pointed top, forming a bluntly conical body in the bud.*

This genus, peculiar to the hills of Jamaica, has the habit of some species of *Cremanium*, but is quite distinct from that genus by the structure of the stamens, forming an intermediate link towards *Miconia.*

68. **O. micrantha,** *Gr.* Branches and petioles powdery, glabrescent; leaves glabrous, elliptical, triplinerved; cymes equalling the petiole; ovary 4-locular: style fusiform, with a

minute stigma.—Melastoma, *Sw.!* Sagræa neurocarpa, *Naud.* Ossæa micrantha, *Macf.* —A slender shrub, 2′ high; leaves 4″–6″ long, comparatively large, membranaceous, shortly tapering at both ends, crenulate-repand or subentire: petiole 8‴–12‴ long; cymes trichotomous, divaricated: pedicels shorter than the flower or equalling it, but by growth three times longer than the berry; calyx 1‴ long, narrow; petals equalling the length of the calyx, white, with a red blot at the base; berry 1‴ diam., globose, "white," greenish in a younger state and then octagonal by the paler-coloured ribs.—HAB. Jamaica!, in the central and western mountains; *Pd., Al., Wils., Wullschl.*, at 2000′.

16. CREMANIUM, *Don, reform.*

(Miconiæ *sp., Naud.* Ossææ *sp., DC.*)

Calyx turbinate or semiglobose: limb reduced: teeth short, bluntish or obsolete. *Anthers* 10–8–4, obovate, truncate, inflexed above the ovary, tailed, opening with 4 or 2 terminal pores, or the pores confluent into a single foramen: filaments jointed at the knee with the deeply inflexed, tapering tail; cells subconnected above, without special furrow. *Ovary* adherent, crowned with a glabrous neck or umbilicated at the top.—Shrubs *or low* trees, *usually glabrous;* panicles *or* corymbiform cymes *terminal or axillary:* flowers *minute:* pedicels *jointed and bibracteolate at the top, or none;* petals 4–5, *obovate, blunt.*

This natural genus, erroneously characterized by the variable number of the pores of the anther, is distinguished from *Miconia* by the peculiar tail of this organ, which often assumes the shape of a connective, bearing the short cells on its upper part. The number of anther-pores is differently described by different authors often in the same species: but the fact is, that the very narrow dissepiments do not present the same growth in all flowers, and may sometimes disappear with development: thus in the same panicle of *C. rubens* I observe 4 and 2 pores, and in other flowers the dissepiments evanescent.

* *Cymes axillary or lateral.*

69. **C. virgatum,** *Gr. Glabrous: leaves oblong-lanceolate,* acuminate, triplinerved; *cymes corymbiform,* lateral: lateral pedicels slender, as long as the flower; anthers 8: tail without appendage; stigma minute, blunt; berry 4-locular, not ribbed.—Melastoma, *Sw.!* Sagræa, *Macf.* Ossæa purpurascens, *Macf.! (an DC.?)*.—A low tree, 20–25′ high, or shrubby: branchlets obtuse-angled, with the under side of leaf-ribs purple-coloured; leaves 3″–6″ long, 1″–1½″ broad, papery or somewhat leathery, polished above, denticulate or entire: veins transverse; petiole 6‴–12‴ long; cymes 1″–2″ long, loose: bracteoles minute; calyx 1‴ long: tube turbinate; petals 4, equalling the length of the calyx; anther-pores 1–2; style exceeding the corolla; berry (2‴ long) ovate.—Melastoma purpurascens, *Sw.* (Ossæa, *DC.*, Miconia ossææformis, *Naud.*), is unknown to me, but it was considered by M'Fadyen to be our plant: the description however disagrees, by the inflorescence nearly equalling the leaves, the leaves less triplinerved, and their veins approximate.—HAB. Jamaica!, in mountain woods, *Sw., Macf., March, Wils.*

70. **C. amygdalinum,** *Gr. Glabrous; leaves elliptical or elliptical-lanceolate,* triplinerved; *cymes racemiform,* lateral or axillary: pedicels short or none; anthers 8–10: tail without appendage; stigma capitate; berry 4–5-locular.—*Bonpl. Mel. t.* 37: a form with serrate leaves; *t.* 36: the same with reduced cymes in fruit.—Melastoma, *Desr., Bonpl.* Ossæa amygdalina, multiflora, acuminata, *DC.* O. brachystachya, integrifolia, *Naud.!* Henriettea racemosa, *Macf.?* Creman. axillare, *Macf.*—A shrub, 2′–10′ high: branchlets obtuse-angled; leaves 2″–4″ long, often pointleted, but variable in the form, the margin either serrulate or entire, the distance of the lateral ribs from the base, and the veins either transverse or oblique: axils of nerves usually with a small tuft of hairs: petiole 3‴–8‴ long; cymes usually 1″ long, exceeded by the leaf, simply or twice divided: ultimate flowers ternate, either clustered or shortly fascicled, with thickish pedicels and minute, deciduous bracteoles; calyx subglobose, rounded at the base, ½‴ long; petals 4–5, equalling the length of the calyx, white; anther-pores 2. Flowers sometimes polygamous, or diœcious, as are those of *C. rubens.*—HAB. Jamaica!, *March, Al., Wils.*, in mountain woods, at 2000′ alt.; [Cuba! to Venezuela].

** *Panicle terminal (sometimes accessory ones from the axils).*

71. **C. rubens,** *DC. Glabrous; leaves elliptical* or *elliptical-lanceolate,* pointed, tri-

nerved (rarely subtriplinerved) ; *panicle terminal,* compound, many-flowered, not exceeding the leaves: flowers subsessile or shortly stalked ; anthers 8–10, abruptly tailed: *tail without appendage; stigma capitate;* berry 3-locular, not furrowed.—*Bonpl. Mel. t.* 9.—Melastoma, *Sw.:* a form with distinct sexes. M. theæzans, *Bonpl.* M. glaucocarpon, *Schlecht. !* M. glaberrimum, *Schlecht. !:* differing by a "white berry." Cremanium theæzans, *DC.* Miconia rubens, microbotrya, abortiva, tetrastoma, *Naud., and partly his* M. milleflora.—A shrub, 2′–10′ high: branchlets usually reddish, obtuse-angled ; leaves 3″–4″ long, yellowish-green by being dried, serrulate or subentire: petiole, 4‴–12‴ long; panicle ovate: flowers minute, crowded, ultimate ones shortly fascicled or clustered; the pedicels, if existing, jointed below the top, with the bracteoles obsolete ; calyx semiglobose, ½‴ long, usually with 4–5 minute teeth; petals 4–5, white, equalling the length of the calyx; anther-pores 4–2–1 ; style at length exceeding the stamens ; berry blue.—Hab. Jamaica !, *Macf., Pd., Al.,* on the higher mountains; [Cuba, Guadeloupe ; Mexico !].

72. **C. Sieberi,** *Gr.* *Glabrous;* branchlets tetragonal; *leaves elliptical-oblong,* tapering at both ends, exquisitely trinerved, serrulate; *panicle terminal,* compound, many-flowered, shorter than the leaves: flowers subsessile or shortly stalked; *bracteoles* oblong or spathulate, blunt, yellowish, *exceeding the buds;* petals 5 ; anthers . . .; ovary 3-locular.—Miconia, *DC.* Mic. vulcanica, *Naud.*—An arborescent shrub, 20′–25′ high; leaves 4″–6″ long: petiole 1″–1½″ long; panicle exactly as in the preceding species, from which it is clearly distinct by its growth and by its peculiar bracts. The nodes produce usually dense tufts of thread-shaped scales.—Hab. Dominica !, *Imr.;* Trinidad, in mountain woods; [Guadeloupe, Venezuela].

73. **C. trinitatis,** *Crueg. !* *Glabrous; leaves ovate-lanceolate,* abruptly acuminate, subtriplinerved or trinerved; *panicle terminal,* loose, compound, equalling the leaves: flowers stalked; anthers 10, tapering towards the tail: *tail* shortly *biauriculated* at the knee; *stigma minute,* blunt; berry 3-locular, not furrowed.—Miconia, *Naud.*—A shrub, 8′–10′ high: branchlets slender, tetragonal; leaves 4″ long, black in drying, subentire: petiole 3‴ long; panicle pyramidal: primary branches with accessory inferior ones; ultimate fascicles usually 3-flowered, with the pedicels equalling the minute flower, or the central shorter, jointed at the top: bracteoles minute or obsolete ; calyx ½‴ long, ovate; petals 5, white, equalling the length of the calyx ; anthers 2–1-pored, exceeding the style; berry 1‴ diam.—Hab. Trinidad !, *Lockh., Cr.;* [Panama !, Guiana !].

74. **C. Rivœriæ,** *Gr.* Branchlets *powdery,* glabrescent; *leaves elliptical* or *elliptical-oblong,* cordate or rounded at the base, subtriplinerved, entire, glabrous; *panicle terminal,* compound, many-flowered, equalling the leaves: central flowers sessile; calyx-tube turbinate; *anthers* 8, *opening with a* single, large, *anterior pore:* tail without appendage; stigma minute; berry 2-locular, 8-ribbed.—Miconia, *Naud.*—Leaves 4″–6″ long: petiole 6‴–8‴ long; panicle pyramidal, trichotomous: bracteoles minute; calyx ¾‴ long, petals the same length; berry 1‴ diam., depressed-globose, purplish-black: seeds pyramidal, with a large rhaphe.—Hab. Dominica !, *Imr.;* [Martinique, Guadeloupe !, in mountain woods].

75. **C. tetrandrum,** *Gr.* Branchlets *lepidote,* tetragonal; *leaves elliptical* or *oblong,* pointleted, trinerved, entire, glabrous, *dotted beneath by minute scales; panicle terminal,* compound, many-flowered, exceeding the leaves: flowers shortly stalked, ebracteolate; *anthers* 4, opening with 2, large, terminal pores: tail without appendage; stigma minute; berry 4-locular, not ribbed.—Melastoma, *Sw.* Tetrazygia, *DC.* Miconia, *Naud.*—A low tree, with the branches pale-rusty; leaves 6″–4″ long: petiole 1½″–1″ long; panicle pyramidal: calyx lepidote, ¾‴ long, semiglobose, constricted below the spreading, reduced limb; petals the same length, 4; berry globose, 1½‴ diam., crowned with the calyx-limb, black.—Hab. Jamaica, on the summit of the Blue Mountain (*Sw.*); [Cuba !, Guadeloupe !, in mountain woods].

Tribe II. *PYXIDANTHEÆ.—Fruit berried. Seeds not cochleate. Anthers compressed, usually cohering by the cells: connective enlarged: its appendage, if present, on the posterior side.*

17. BLAKEA, *L.; Naud.* (*l. c.* 18 *p.* 142. *t.* 6. *f.* 1).

Calyx 6-lobed or 6-toothed, supported by a 4(–6)-leaved involucre. *Anthers* 12, cohering

or distinct, opening with 2 terminal pores: cells separated by a longitudinal furrow: connective produced at its base into a conical, posterior spur. *Ovary* adherent, 6-locular: stigma minute, smooth.—Trailing shrubs; leaves *leathery, petioled:* nerves *communicating by numerous transverse or oblique veins;* flowers *large, solitary, axillary:* bracts *in continuous, decussate pairs, concealing the calyx.*

76. **B. trinervis,** *L.* Leaves elliptical, pointleted, rounded at the base, subtriplinerved; calyx 6-lobed; *anthers distinct,* complanate, ovate-roundish, bluntish: *connective obliquely inflexed,* and spur short.—*Br. Jam. t.* 35. *Tuss. Fl.* 3. *t.* 24.—A shrub, the branches supporting themselves on neighbouring bushes (*Macf.*): branchlets with the petioles and the under side of leaf-ribs covered with a rusty-tomentose down; leaves 2″–3″ long, at length glabrous and shining, minutely dotted: nerves prominent beneath, separating a little above the base, lateral ones running close and parallel to the margin; peduncles longer than the petiole: bracts elliptical or roundish, blunt, striated by nerves, half the length of the flower; petals large, 1½″ long, obovate, pink; anther-pores a little projecting. I find the anthers quite distinct in the fully developed flower, and no part of the epidermis of the cells shows any signs of a former coherence: this, if confirmed by the bud, would be a remarkable difference from the following species and other *Pyxidantheæ.* The shape of the anthers, which (in conjunction with characters of minor importance) has induced Naudin to dissolve *Blakea* into three or four genera, seems in this genus to be only of specific value, and indeed it is so different in the two West Indian species, that they might be separated also, with as good reason as *Bellucia.*—Hab. Jamaica!, *Dist., Al., Wullschl.,* common in mountain woods.

77. **B. laurifolia,** *Naud.* Leaves elliptical, pointed at both ends, trinerved; calyx 6-toothed; *anthers cohering, erect:* cells oblong, blunt, twice as large as the linear, straight connective, and spur one-third the length of the filament, bluntish.—A shrub, perfectly glabrous; leaf-ribs prominent, separating at the base itself; peduncles a little longer than the petiole; bracts roundish, striated by nerves; petals rosy. In habit it agrees exactly with the preceding species, but is besides easily recognized by the veins of leaves almost 1‴ distant from each other, and running not at a right-angle from the midrib (as is the case in *B. trinervis*), but in a somewhat oblique direction of about 40°.—Hab. Dominica!, *Imr.;* S. Vincent, *Guild.,* in mountain woods; [Guadeloupe!].

18*. BELLUCIA, *Neck.; Naud.* (*l. c.* 16. *p.* 102; 18. *t.* 4. *f.* 1).

Calyx irregularly lobed, without an involucre. *Anthers* 10–16, distinct at length, opening with two terminal pores: cells entirely separated by a longitudinal furrow: connective spurless, obliquely inflexed. *Ovary* adherent, 8–16-locular: stigma capitate, longitudinally furrowed.—A low tree; leaves *petioled; triplinerved:* nerves *communicating by distant veins;* flowers *large, axillary;* berry *large, eatable.*

78*. **B. Aubletii,** *Naud.—Seem. Fl. Panam. t.* 26.—Blakea quinquenervia, *Aubl.* B. Hostmanni *et* superba, *Naud.!* Ischyranthera lævigata, *Steud.!*—A tree, 20′–25′ high; leaves usually 5″–8″ long, elliptical, pointleted, shining above and pale beneath; pedicels solitary or 2–3, as long as the petiole; petals rosy or whitish, obovate, about 8‴ long; berry yellow.—Hab. Naturalized in the southern Caribbean Islands; [Mexico! to Pará!].

Tribe III. *CHARIANTHEÆ.—Fruit capsular. Seeds not cochleate. Appendages of anthers, if present, on the posterior side.*

19. CHARIANTHUS, *Don; Naud.* (*l. c.* 18. *p.* 111).

Calyx-limb spreading, shortly 4-lobed or repand. *Anthers* 8, without appendages, opening longitudinally or with a terminal pore: filaments subulate, inflexed in the bud. *Ovary* adherent, 4–2-locular. *Capsule* crowned with the calyx-limb: seeds pyramidal.—Shrubs, *endemic to the West Indies;* leaves *somewhat leathery, petioled, usually triplinerved;* cyme *corymbiform, terminal;* petals *large, crimson or purple, oblong or oval, erect, much exceeded by the sexual organs.*

Sect. 1. Eucharianthus.—*Cells of the anthers opening longitudinally. Ovary 4-locular.*

79. **Ch. coccineus,** *Don. Glabrous; leaves* ovate, protracted into a bluntish point,

dotted with black beneath, triplinerved; calyx one-third the length of the corolla: lobes blunt, sometimes evanescent; petals oblong; anthers short, somewhat recurved during anthesis.—*Bonpl. Mel. t.* 14.—Melastoma, *Rich.* M. alpina, *Sw.*—A low shrub, 1′–2′ high: branches cylindrical; leaves 2″ long, entire; petals 8‴–9‴ long (sometimes smaller); anthers 1‴ long.—HAB. Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Martinique, Guadeloupe, on the volcanoes, above 3000′].

80. **Ch. glaberrimus,** *DC. Glabrous;* leaves ovate, acuminate and pointed, *without any dots,* 3–5-*nerved;* calyx one-half the length of the corolla: limb 4-lobed to the middle; petals oval; anthers linear, recurved during anthesis.—Melastoma splendens, *Sieb. Mart.* 120!; *Trinit.* 58! M. martinicensis, *Prl.!* Ch. tinifolius, *Don,* is probably the same plant, and if this can be confirmed by authentic specimens, De Candolle's name must cede to this.—Branches somewhat four-edged; leaves 3″–4″ long, entire, or crenulate-repand: the point variable in length (sometimes wanting); petals 4‴–5‴ long; anthers 2‴ long. In habit it agrees with the preceding, but is easily recognized by the absolute want of the black dots on the under side of leaves, which are characteristic for *Ch. coccineus* and *Ch. Fadyeni.*—HAB. Dominica, *Imr.;* [Martinique!, Guadeloupe!].

81. **Ch. purpureus,** *Don. Branches hairy; leaves* ovate, sometimes subcordate at the base, without dots, *triplinerved:* younger ones with distant hairs, and these persisting on the margin; calyx one-half the length of the corolla: limb repand, with 4 minute teeth; petals oval; anthers linear.—*Vahl, Eclog. Amer. t.* 16.—Ch. ciliatus, *DC.* Ch. crinitus, *Naud.:* a form with larger leaves. Melastoma Dodandianum, *Ham.:* a decandrous aberration, not seen.—A shrub: the branches somewhat four-edged, at length cylindrical; leaves 3″–4″ long or larger, less leathery than in the other species, pointed or bluntish, crenulate or repand; petals 4‴–5‴ long; anthers 2‴ long.—HAB. Montserrat, *Vahl;* [Martinique, Guadeloupe!, on the mountains].

Sect. 2. ECCHARIANTHUS.—*Anthers opening with a single terminal pore. Ovary 2-locular.*

82. **Ch. Fadyeni,** *Gr. Glabrous; leaves* ovate, blunt, *dotted with black beneath, triplinerved;* calyx one-third the length of the corolla: limb repand, with obsolete teeth; *anthers* linear, elongated, straightish during anthesis, *opening with a terminal pore.*—*Hook. Journ. of Bot.* 1. *t.* 12.—Tetrazygia, *Hook.!*—A small tree or shrub, 4′–15′ high: branches subcompressed, at length cylindrical; leaves 2″ long, or smaller, entire; petals 4‴–5‴ long; anthers 2½‴ long.—HAB. Jamaica!, *Macf., Pd., Al.,* in rocky situations, on the mountains of the northern and central districts of S. Anns and S. Thomas-in-the-Vale, at 2000′–2500′ alt.

20. MERIANIA, *Sw.; Naud.* (*l. c.* 18. *p.* 124. *t.* 5. *f.* 2).

Calyx-limb spreading, 5-lobed, with the lobes inserted below the repand margin. *Anthers* 10, opening with 1–2 terminal pores: connective (either in all or the alternate ones) produced at its base into a conical, posterior spur. *Ovary* free from the beginning, 5-locular, 5-lobed at the top.—Shrubs *or* small trees; leaves *leathery, shining, petioled, usually* 3-*nerved:* nerves *communicating by numerous transverse veins;* flowers *large, arranged in simple, terminal cymes, or solitary, supported by* 2 *or* 4 *bracts, which are distant from the calyx by a short internode;* petals *obovate, purple, rose-coloured or white.*

The West Indian species of *Meriania,* much confused by authors, are very variable in the number of the bracts, the form of the leaves, and the colour of the flower, and as even the anthers do not always present positive characters, they must be reduced in number: the two remaining ones, beautifully figured by Tussac, are easily distinguished by the form of the bracts, and by the two small tumours on the upper side of leaves at their base, peculiar to *M. bullifera.*

83. **M. rosea,** *Tuss. Leaves without tumours at the base; bracts* 2–4, elliptical or obovate, *trinerved;* calyx-lobes subulate; anther-spurs short, alternately conical and bituberceled.—*Tuss. Fl.* 1. *t.* 6. *Desc. Fl.* 4. *t.* 303.—M. leucantha *et* purpurea, *Sw.* (*non Tuss.*). M. nana *et* bifrons, *Naud.*—An arborescent shrub, 30′–5′ high; leaves elliptical or ovate-lanceolate, the younger ones minutely serrate with glandular teeth.

α. Branchlets obtuse-angled; leaves elliptical, bluntish, usually with a point, 3″–4″ long: glandular teeth distant, chiefly beyond the middle, usually early disappearing; bracts usually 2; petals white, with a crimson base, or rosy.—M. leucantha, *Sw.*—Tussac's and Descourtil's figures belong to its rose-coloured form. *M. bifrons*, Naud., characterized by pointed spurs and usually 4 bracts, agrees with a younger state of it sent from Jamaica by Mr. March.

β. *purpurea*, Sw. (non Tuss.). Branchlets subcylindrical; leaves ovate-lanceolate, taper-pointed, 3″–6″ long: glandular teeth crowded in the younger state, but sometimes disappearing with age; bracts usually 4, elliptical or elliptical-lanceolate; petals purple.—A shrub of less high growth (according to Swartz), to which may be confidently referred *M. nana*, Naud.: but a contrary statement of the respective growth of *M. leucantha* and *purpurea* has been made by M'Fadyen.

HAB. Jamaica! (α and β): all coll., common on the higher mountains.

84. **M. bullifera,** *Gr.* *Leaves* elliptical or elliptical-lanceolate: upper side *with two minute* ovate *tumours* between the bases of nerves; *bracts* 4–2, linear and somewhat spathulate towards the top (sometimes spathulate-lanceolate and convolute), *uninerved;* calyx-lobes subulate; anther-spurs short, alternately conical and bitubercled.—*Tuss. Fl.* 1. *t.* 7.—M. purpurea, *Tuss*, *Naud.* (*non Sw.*). M. rosea, *Macf.* (*exclus. synon. Tuss.*).—An arborescent shrub, about 16′ high; leaves bluntish, with a point, usually smaller than in the preceding species, 2″–3″ long: the younger ones minutely serrate with distant glandular teeth; petals beautifully scarlet (*Pd.*).—HAB. Jamaica!, *Pd.*, *March*, on the higher mountains, *e.g.* S. Katherine's Peak, Portland Gap.

21. DAVYA, *DC.*; *Naud.* (*l. c.* 18. *p.* 134).

Calyx-limb spreading, repand or obscurely lobed. *Anthers* 10–8, opening with a single terminal pore: spur posterior, elongated, reflexed and parallel to the anther. *Ovary* free, 5–3-locular.—Arborescent *or* scandent shrubs; leaves *petioled*, 3–5-*nerved:* nerves *communicating by distant, oblique or tranverse veins;* panicle *or* cyme *terminal;* petals *obovate.*

85. **D. adscendens,** *Gr.* *Scandent*, glabrescent; leaves broadly elliptical, pointleted; divisions of the panicle terminated by *corymbiform cymes;* anther-spur linear, bifid: divisions setaceous; ovary 5-locular.—Melastoma, *Sw.!* Adelobotrys scandens, *Macf.* (*non Aubl.*).—A scandent shrub, 10′–30′ high: branches elongated, obtuse-angled; down ferruginous, scattered, disappearing on the full-grown branches and leaves; leaves 3″–5″ long, 2½″–4″ broad, trinerved, with a strong, accessory, juxtamarginal pair, obscurely denticulate and ciliate; panicle much branched: pedicels 2‴–3‴ long; calyx narrowly campanulate, equalling the pedicel: limb with minute teeth; petals flesh-coloured, usually 5, a little longer than the calyx-lobes; capsule ovoid-globose.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, *Wullschl.*, in damp mountain woods, especially in the northern districts, climbing on trees, *Macf.*, *Al.*, *Wils.*; [Mexico!, *Jurgensen*].

86. **D ciliata,** *Naud.* Branches cylindrical, glabrescent; *leaves* broadly elliptical, pointleted, *glabrous*, subciliate; divisions of the panicle spreading, terminated by *few-flowered flower-heads.*—Leaves 6″–5″ long, 4″–3″ broad, polished, trinerved, usually crenate, with the short crenatures broad and truncate: the pair of leaves not quite of the same size; down perfectly disappearing on the full-grown branches and leaves, with the exception of single short cilia between the crenatures, or even these wanting, if the leaf is entire; panicles short, with the clusters distant, terminal and axillary, the axillary ones exceeded by the leaves; calyx-tube ovoid, 2‴ long, with 10 (–8) prominent, longitudinal ribs, and covered with scattered, spreading hairs, surrounding the capsule and appressed to it: limb short, obscurely 5-lobed. My specimen has only immature fruits: Naudin's species will perhaps prove a glabrescent form of *D. scandens* (*Adelobotrys*, DC., *Melastoma*, Aubl. t. 172), from which it is distinguished chiefly by the leaves and the leaf-ribs being perfectly glabrous. —HAB. Trinidad!, *Cr.*; [Guiana].

22. CYCNOPODIUM, *Naud.* (*l. c.* 4. *p.* 52, *and* 18. *p.* 118).

Calyx-limb 4-lobed. *Anthers* 8, opening with a single terminal pore: connective produced at the base into a short tail, continuous with the hanging, posterior, short spur.

Ovary free, 2-locular.—A glabrous shrub; leaves *large, orbicular, petioled, 7–9-nerved;* panicle *terminal, trichotomous, much branched: ultimate divisions contracted;* petals *obovate.*

87. **C. latifolium,** *Naud.—Deless. Ic.* 5. *t.* 3.—Habit of *Davya:* branches thick, as if belonging to a tree; leaves 5″–8″ long, sometimes broader than long, rounded at both ends, minutely cordate at the base: veins as in *Davya:* petiole 1″–2″ long; panicle 3″–8″ long and broad: ultimate branches 3–7-flowered, pedicels short or none; calyx 2‴ long, campanulate, furrowed in fruit, and surrounding the globose capsule; petals 3‴ long.—Hab. Dominica!, *Imr.;* S. Vincent; [Venezuela! *Fendl.* 418].

Tribe IV. *LASIANDREÆ.—Fruit capsular. Seeds cochleate. Appendages of anthers, if present, on the anterior side.*

23. HETERONOMA, *DC.; Naud.* (*l. c.* 14. *p.* 151. *t.* 7. *f.* 2).

Calyx-limb 4-toothed: teeth broad, persistent. *Anthers* 8, of different structure, 4 tailed, 4 without tail: the larger tailed ones with a simple spur, tridenticulate or bifid at the top, the smaller ones with two setaceous spurs. *Ovary* adherent, crowned with bristles, 4-locular. —Suffrutescent herbs; stem *tetragonal;* leaves *petioled: the pair usually of different growth;* cyme *terminal, corymbiform:* flowers *large, red.*

88. **H. diversifolium,** *DC.* Stem with scattered hairs; leaves 5-nerved, ovate, acuminate, serrate-ciliated; spur of the larger anthers tridenticulate, shorter than the cells.—*Bonpl. Rhex. t.* 45.—Arthrostemma latifolium, *Don, ap. Crueg. l. c. p.* 101.—Hab. Trinidad, *Cr.,* on wet ground; [Guiana, Venezuela!, New Granada, Peru].

24. CHÆTOGASTRA, *DC.; Naud.* (*l. c.* 14. *p.* 127).

(Hephestionia, *Naud. l. c.* 13. *p.* 31).

Calyx-tube terete, usually strigose: lobes 4–5, subulate, persistent. *Anthers* 8–10, equal: tail short or none. *Ovary* adherent, crowned with bristles, 4–5-locular.—Shrubs, *growing in elevated situations, usually strigose;* flowers *large, mostly solitary and drooping, axillary and terminal.*

Sect. Hephæstionia.—*Anthers oblong, straight, and a little curved towards the top: tail short, bitubercled at the base.*—Low shrubs; calyx strigose or hispid; petals purple, ciliate, (usually 5).

This section presents a remarkable instance of endemic mountain-shrubs, confined to very limited situations, as under the head of De Candolle's *Ch. strigosa* there exist in our collections four different species, three of which have been found only in a single volcanic island: the fourth has perhaps a wider range, but some of its localities are doubtful.

89. **Ch. strigosa,** *DC.* (*exclus. syn. Sieb.*). *Leaves* ovate, bluntish, 3-*nerved,* strigose: *bristles* on the upper side 16–20, semiadnate, yellowish, parallel *to the midrib;* flowers solitary or 3–5 at the end of the branches, drooping, shortly stalked; calyx-lobes foliaceous, ovate-oblong, bluntish, suberect; anthers blunt: tail one-third the length of the cells.—*Bonpl. Rhex. t.* 26.—Osbeckia ornata, *Sw.* Melastoma, *L.* M. ciliata, *α, Lam.* Hephestionia strigosa, *Naud.* Rhexia inconstans, *Vahl:* "the number of stamens variable between 7 and 12, of petals 5 and 4." Rh. ornata, *Rich. ap. Bonpl.*—A low shrub, 1′ high, much branched: branches tetragonal, strigose; leaves small, 3‴ long: besides the number of bristles given above, there are a few on the revolute margin and the ribs of the under side; petals bright purple.—Hab. S. Kitts (*Sw.*), Montserrat (*V.*), on the tops of the volcanoes, among mossy lava-blocks; [Guadeloupe!, Martinique; Guiana!, New Granada].

Naudin has besides a locality from the southern States of North America (Carolina: Noisette), though in the writings of Asa Gray no West Indian *Melastomacea* is mentioned, and though instances of woody plants, ranging spontaneously from the West Indies to the United States, are almost entirely unknown. As in large collections the misplacement of labels has often led to wrong localities being assigned to plants, I consider these North American habitats as erroneous.

A similar species, not yet met with in the British islands, is: CH. CHAMÆCISTUS, *Gr.*—*Leaves* ovate, bluntish, *uninerved*, ciliate: *bristles* on the upper side 12–14, wholly *adnate*, and transformed into parallel, straight ridges, *oblique to the midrib*, and projected into points on the convex margin; flowers solitary at the end of branches, suberect, stalked: pedicels as long as the calyx, and both organs hispid; calyx-lobes oblong, bluntish, erect; anthers bluntish: tail short, scarcely one-fourth the length of the cells.—Melastoma ciliata, β, *Lam.* Rhexia chamæcistus, *Sieb. Mart.* 297! Hephestionia, *Naud.*—A shrub, higher and less branched than *Ch. strigosa:* branches tetragonal, strigose; leaves small, 3‴ long: bristles on the under side shorter and more numerous, usually ending with a free point.—HAB. Martinique!, on the top of the Montagne Pêlée: the only known locality.

90. **Ch. chironioides,** *Gr.* (*n. sp.*). *Leaves* lanceolate, taper-pointed, *uninerved*, petioled, strigose: *bristles* on the upper side 6–8, semiadnate, yellowish, *parallel to the midrib;* flowers usually ternate at the end of branches, suberect, almost sessile; calyx-lobes lanceolate-linear, taper-pointed; anthers bluntish: tail short, scarcely one-fourth the length of the cells.—A slender shrub: branches short, tetragonal, strigose, the uppermost ones forming a sort of corymb of beautiful purple flowers; leaves small, 4‴ long: under side paler, with a few bristles on the midrib and on the thinly revolute margin; calyx strigose, approximate to the bracts. This species is easily to be distinguished from the *Ch. strigosa* by the narrow lobes of the calyx, and by the want of lateral ribs in the leaf.—HAB. Dominica!, *Imr.*

91. **Ch. cistoides,** *Gr.* (*n. sp.*). *Leaves* ovate, pointed, 3-*nerved*, petioled, densely strigose on the upper side: *bristles diverging from the immersed nerves*, adnate only at the base; flowers cymous at the end of branches, shortly stalked; calyx-lobes subulate-linear, diverging; anthers bluntish: tail very short, scarcely one-sixth the length of the cells.—A diffuse shrub, named after the resemblance of the leaves to those of some European *Cisti:* branches subcylindrical, strigose; leaves 8‴–12‴ long: bristles of the under side free to the base, less numerous, being restricted to the prominent ribs, the veins, and the revolute margin; calyx hispid; tubercles of the anther-tail obsolete.—HAB. S. Vincent!, *Guild.*

25. ARTHROSTEMMA, *DC. reform; Naud.* (*l. c.* 13. *p.* 355).

(Pterogastra, *Naud., ib. p.* 32. Micranthella, *Naud., ib. p.* 347.)

Calyx-tube 8–10-ribbed, setose: lobes 4–5, persistent. *Anthers* 8–10, equal: tail short or none: base bitubercled. *Ovary* at length free, crowned with bristles, 4–5-locular.—Herbs, *often suffrutescent, or slender shrubs;* cymes *axillary and terminal, usually constituting a large panicle, sometimes the single ones contracted or represented by a single flower:* flowers *comparatively small.*

* *Calyx-lobes ovate-oblong, pointed, alternating with branched bristles* (Arthrostemma, *Naud.*).

92. **A. glomeratum,** *Naud.* Suffrutescent; leaves ovate-lanceolate or lanceolate, pointed, 3-nerved; terminal *flowers clustered;* anthers 8: tail very short or none.—*Bonpl. Rhex. t.* 32.—Rhexia dichotoma, *Sieb. Mart.* 99. Osbeckia glomerata, *DC.* Pterolepis capitata, *Miq.* Ph. glomerata, *Crueg.!* A. capitatum, *Naud.*—Stem with elongated, tetragonal, strigillose branches; leaves with scattered, stiff hairs, subentire; petals 4, rosy or white; anthers tapering towards the top.—HAB. Dominica!, S. Vincent!, *Guild.;* Trinidad!, *Cr.*, common on pastures and savannahs; [Guiana!, Brazil!].

93. **A. ladanoides,** *DC.* Annual, herbaceous; leaves lanceolate or oblong-lanceolate, pointed, 3-nerved; flowers shortly stalked, distant, in a *loose*, dichotomous *panicle;* anthers 8: tail about one-third the length of the cells.—*Bonpl. Rhex. t.* 27.—A. pumilum, *Naud. ex ic. cit.* (*Bonpl. ib. t.* 35): a common form, with smaller flowers. Pterolepis pumila, *Crueg.!*—Stem tetragonal, strigillose: branches slender; leaves shortly strigose, with scattered hairs, subentire; petals 4, red; anthers tapering towards the top.—HAB. Trinidad!, *Sch., Lockh., Cr.*, on savannahs; [Panama!, Venezuela!, Brazil!, Paraguay, Peru!].

** *Calyx-lobes subulate, without alternating bristles* (Micranthella, *Naud.*).

94. **A. lanceolatum,** *Gr.* Shrubby; leaves oblong-lanceolate, acuminate, 3-nerved: lateral nerves bipartite; flowers at length nodding, arranged in *dichotomous, axillary cymes;*

calyx-lobes narrow, divergent; *anthers* 10: tail very short.—*Bonpl. Rhex. t.* 21.—Chætogastra, *DC.* Micanthella lanceolata *et* longifolia, *Naud.* Chætog. havanensis, *DC.* Ch. longifolia, *DC.*—Branches subcylindrical, strigose, with soft hairs; leaves subentire; cymes equalling the leaves or shorter; petals 5, white; anthers tapering towards the end.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Sch., Cr.;* [Cuba!, Mexico!, to Brazil! and Bolivia!].

26. COMOLLIA, *DC.; Naud. (l. c.* 13. *p.* 25).

Calyx-tube setose: lobes 4, subulate. *Anthers* 8, equal, subulate: tail arcuate, bituberclcd at the base. *Ovary* at length free, without terminal bristles, 2-locular.—Suffrutescent herbs *or* shrubs; flowers *mostly axillary, solitary or in short cymes, red or white.*

95. **C. veronicifolia,** *Benth.* Suffrutescent or shrubby, shaggy with rusty often glandular hairs; *leaves* obovate or elliptical, serrulate or repand, *petioled,* 5-nerved; flowers solitary or ternate; tail of anthers without a posterior gibbosity.—Branches diffuse, elongated, tetragonal; leaves 8‴–12‴ long, hairy on both sides; petals rosy, obovate, blunt.—Hab. Trinidad!, *Pd., Cr.,* on sandy savannahs; [Guiana!].

27. NEPSERA, *Naud. (l. c.* 13. *p.* 28, *and* 12. *t.* 14. *f.* 1).

Calyx-lobes 4 (–5), linear. *Anthers* 8 (–10), equal, lanceolate-linear: tail arcuate, equaling its two ascending spurs. *Ovary* at length free, without terminal bristles, 3-locular.—A suffrutescent branched herb, *with thin foliage;* panicle *terminal, loose;* pedicels *slender;* petals *pointed.*

96. **N. aquatica,** *Naud.*—Leaves ovate-lanceolate, taper-pointed, cordate at the base, serrulate, 3–5-nerved; panicle trichotomous: pedicels filiform.—*Aubl. t.* 169. *Bonpl. Rhex. t.* 40.—Rhexia, *Sw.* Spennera, *Mart.* Sp. hydrophila, *Miq.* Sp. Asphalti, *Crueg.!:* a form with curled leaves.—Branches tetragonal, usually somewhat hairy; petals flesh-coloured.—Hab. Jamaica! to Trinidad!, in wet and woody situations; [Cuba and Panama! to Brazil!].

28. SPENNERA, *DC.; Naud. (l. c.* 14. *p.* 141. *t.* 5).

Calyx-limb with 4 minute teeth. *Anthers* 8, equal, oblong or roundish, without appendages: connective either not exceeding the cells or produced into a tail, continuous with the filament. *Ovary* at length free, without terminal bristles, 2-locular.—Herbs *with thin foliage, growing in swampy situations;* panicle *slender, loose, terminal, constituted of dichotomous cymules;* buds *conical.*

97. **Sp. pellucida,** *DC.* Suffrutescent; *stem four-winged;* leaves ovate or ovate-lanceolate, ciliate and roughish chiefly on the upper side; panicle forming an *elongated thyrse; tail of anthers nearly as long as the cells.—Miq. Comment. Phytogr. t.* 10: quite agreeing with our plant, but the capsule is described as trilocular (perhaps by monstrosity).—Sp. tetraptera, *Miq.* Sp. martinicensis, *Naud.*—The shape of the leaves is variable, as has been remarked by Miquel: there occur forms where the base is cordate or tapering, and the top blunt or acuminate.—Hab. Trinidad!, *Lockh., Cr.,* in swampy grounds and along river-banks; [Martinique, Guiana!].

98. **Sp. Kappleriana,** *Naud.* Hairy and glandular; leaves elliptical, ovate, or elliptical-lanceolate, petioled; *cymes dichotomous,* terminal on the branches, spreading; anthers oblong-linear: *tail very short.*—Sp. viscida, *Miq.* Sp. laxa, *Cr.! (an DC.?).*—The cymes are shorter and the leaves are narrower than in Kappler's plant: but Crueger remarks that the form of the leaves is variable, and that they are sometimes blunt and cordate, while in our specimens they are tapering on both ends.—Hab. Trinidad!, *Cr.;* [Guiana!].

29. ACISANTHERA, *P. Br.; DC. Prodr.* (3. *p.* 88).

(Appendicularia, *DC.* Dicrananthera, *Prl.* Noterophila, *Mart.; Naud. l. c.* 12. *p.* 279. *t.* 13. *f.* 1. Uranthera, *Naud. ib. p.* 282.)

Calyx-lobes 4–5, subulate. *Stamens* unequal, the larger ones alternating with the petals:

tail of the anthers in these arcuate, and spurs ascending; smaller anthers with the spurs reduced into tubercles or obliterated. *Ovary* at length free, without terminal bristles, 2-3-locular.—Herbs; stem *tetragonal; pedicels short, most of them axillary, solitary or forming small cymes, or arranged in a racemiform panicle;* petals *reddish or white.*

99. **A. quadrata,** *Juss.*—Annual; branches numerous, most of them alternating; *leaves* lanceolate-elliptical, pointed, serrulate, *shortly petioled;* flowers axillary, drooping, mostly unilateral; petals 4–5; *larger anthers* oblong-linear, *as long as their tail:* spurs setaceous; *ovary bilocular.—Br. Jam. t.* 22. *f.* 1.—Rhexia Acisanthera, *L. ex synon. et descr.:* by Naudin erroneously referred to the following species. Uranthera dicranophora, *Naud.*—A slender plant, glabrous or hairy at the nodes, not glandular; leaves small, 4‴ long, trinerved; petals white.—HAB. Jamaica!, *M'Nab, Pd., Al., Wullschl*, on pastures; [Portorico].

100. **A. recurva,** *Gr.* Annual, glandular; branches mostly alternating; *leaves* ovate or lanceolate, bluntish, serrate, *shortly petioled;* flowers axillary, drooping, unilateral; petals 5; *anthers* a little tapering towards the top, *nearly twice the length of their tail:* spurs clavate; *ovary trilocular.*—Microlicia recurva, *DC.* Uranthera, *Naud.*—Leaves small, 4‴ long, subtrinerved; petals red.—HAB. Jamaica!, *Pd., Al.;* Trinidad!, *Lockh., Cr.*, on pastures; [Panama!, New Granada!, Guiana, equat. Brazil!].

101. **A. brevifolia,** *Gr.* Glabrous, span-high, stoloniferous at the base; stem nearly simple below the inflorescence; *leaves* entire, *sessile,* with a broad base, inferior ovate, blunt, superior longer, oblong-lanceolate, all very small; cyme terminal: pedicels erect, equalling the bracts; petals 5; anthers tapering towards the top, a little longer than their tail: spurs clavate, blunt, scarcely half the length of the tail; ovary bilocular.—Noterophila, *Naud.* Rhexia paludosa, *Salzm. Pl. Bah.!*—Microlicia brevifolia, *DC.* (*Aubl. t.* 155 *b:* Mel. trivalvis, *ej.*), though differing by a trilocular ovary, is probably the same plant, and has been considered as such by Naudin.—Leaves 2‴–3‴ long, subuninerved; cyme constituted of a small number of rather distant flowers; petals red.—HAB. Trinidad!, *Pd., Cr.*, on wet savannahs; [Guiana, Brazil!].

LXIX. LYTHRARIEÆ.

Stamens definite, inserted into the valvate calyx, usually lower down than the petals. *Ovary* superior, mostly syncarpous: ovules ∞: style simple. *Capsule* many(–few)-seeded: seeds exalbuminous.—Leaves *exstipulate, usually opposite and entire.*

Some *Lythrarieæ* are acrid, medical plants (*Cuphea, Lagerstrœmia*). A pigment, called *Henna* by the Arabs, is obtained from *Lawsonia*.

1. CUPHEA, *P. Br.*

Calyx tubular, 12-ribbed, gibbous, or spurred at the base. *Petals* 5–7, unequal. *Stamens* usually twice as many. *Ovary* unequally 2-celled, with a basilar gland on the upper side. *Capsule* bursting laterally: seeds compressed.—Herbs *or* shrubs.

1. **C. Parsonsia,** *R. Br.* Annual; stem diffuse, scabrous-pubescent; leaves ovate or oblong, shortly petioled, glabrescent (or scabrous); *flowers alternate, subsessile* or shortly pedicellate, *obliquely inserted into the axils,* about half as long as the leaves; calyx gibbous at the base: teeth minute; petals 6 (–7); stamens 6, included, two exceeding the rest: filaments short, glabrous; stigma capitate; capsule few-seeded.—*Br. Jam. t.* 21. *f.* 2.—Lythrum, *L.* C. radicans, *Macf., and* C. hirta, *DC.?:* the scabrous-leaved form. C. Swartziana, *Rich. Cub.* (*non Spreng.*).—Spithameous, prostrate; leaves 6‴–4‴ long, pointed, or bluntish; calyx 2‴–3‴ long; petals pale-purple, 1‴ long.—HAB. Jamaica!, all coll., common in pastures; [Cuba!].

2. **C. viscosissima,** *Jacq.* Annual; stem virgate, viscid-pubescent; *leaves* ovate-lanceolate, *petioled,* slightly scabrous; *flowers alternate,* pedicellate: pedicels juxtapetiolar, much shorter than the calyx; calyx viscid, with a short, blunt spur at the base: teeth minute; stamens 12 (–8): filaments villous; capsule few-seeded.—*Jacq. H. Vind.* ii. *t.* 177.—Lythrum petiolatum, *L.* L. Cuphea, *L.* L. Melanium, *L.* (Cuphea, *R. Br.*)?: probably the same plant, but in herbaria usually confounded with the preceding.—Leaves 8‴–10‴

long: petiole 2‴–4‴ long; calyx 4‴ long; petals violet.—Hab. Jamaica (*Macf.*); [United States! to Brazil!].

3. **C. hyssopifolia,** *Kth.* Suffrutescent; stem scabrous or hispid; *leaves* ovate-oblong or oblong-lanceolate, *subsessile* or shortly petioled, scabrous; *flowers alternate, pedicellate*: pedicels inserted between the leaf-pairs, much shorter than the calyx; calyx gibbous at the base, exceeded by the leaves: teeth minute; stamens 11 (–9): the majority of the filaments villous; stigma minute; capsule few-seeded.—C. balsamona, *Cham.*—Leaves 6‴–15‴ long: veins prominulous beneath; calyx 3‴, petals 1‴ long.—Hab. Dominica!, *Imr.*; [Mexico! to Montevideo!; Galapagos!].

4. **C. Trinitatis,** *DC.* Suffrutescent, diffuse; branches scabrous above; leaves lanceolate or oblong-lanceolate, subsessile at the tapering base, glabrescent; *flowers opposite, in terminal racemes: pedicels* inserted between the bract-pairs, *as long as the calyx;* calyx small, gibbous at the base: teeth minute; petals half as long as the calyx; stamens 11–8, villous; capsule few-seeded.—*Bot. Mag. t.* 2580.—C. serpyllifolia, *Sims* (*non Kth.*).—Allied to *C. parviflora,* Hook., in which the calyx is longer and viscid. A low, delicate plant, with fastigiate racemes: habit of *Scutellaria minor;* leaves 8‴–4‴, calyx 2‴ long; petals red.—Hab. S. Vincent!, *Guild.;* Trinidad (*Bot. Mag.*).

5. **C. decandra,** *Ait.* Shrubby; branches scabrous-hispidulous; leaves elliptical, contracted into a short petiole, glabrescent, ciliate; *flowers opposite, in short, terminal racemes: pedicels* inserted between the bract-pairs, *shorter than the calyx,* turned to one side; calyx gibbous at the base, viscid-pilose: teeth minute; petals 5, 4 times shorter than the calyx; stamens 10, villous; capsule several-seeded.—Lythrum ciliatum, *Sw.*—1′–3′ high; leaves 4‴–10‴, pedicels 2‴, calyx 4‴ long; petals purple.—Hab. Jamaica!, *Hartw.*, *Pd.*, *Al.*, *March,* in stony mountains, in the Coffee region.

Of the large-flowered continental *Cupheæ,* several are cultivated or naturalized in the West Indies, *e.g. C. micropetala,* Kth. (Syn. *C. platycentra,* Benth.), in the Blue Mountains of Jamaica!, *Al.*, and *C. Melvilla,* Lindl., in S. Vincent!, *Guild.*

2. AMMANNIA, *L.*

Calyx shortly campanulate, not striate, usually with minute appendages between the lobes. *Petals* 4, small, deciduous (or none). *Stamens* 4–8: anthers roundish. *Ovary* 2–4-celled. *Seeds* ∞, minute.—Annual, glabrous herbs; leaves *narrow:* flowers clustered or solitary in their axils.

6. **A. humilis,** *Mich.* *Leaves* lanceolate or linear-lanceolate, *tapering at the base;* flowers sessile, 1 (–3) in the axils; calyx 4-toothed, with conspicuous accessory teeth; stamens 4; ovary 4(–3)-celled: *style very short;* capsule enclosed within the calyx, irregularly bursting at the top.—A. ramosior, *L. Sp.* (*non* L. Mantiss). A. occidentalis, *DC.* A. catholica, *Cham. and Schlecht.!*—Stem 12″–6″ high, few-branched; accessory calyx-teeth variable in shape.—Hab. Trinidad!, *Lockh.*, *Cr.*, in moist places; [United States! to Brazil!].

7. **A. latifolia,** *L.* *Leaves* lanceolate-linear, *cordate at the sessile base;* flowers subsessile, 1–5 in the axil; calyx 4-toothed, with conspicuous accessory teeth; stamens 8–4; ovary 4(–5)-celled: *style filiform;* capsule enclosed within the calyx, irregularly bursting.—*Sl. t.* 7. *f.* 4.—A. octandra, *L. fil.* A. sanguinolenta, *Sw.*—Stem ½′–3′ high, virgate; petals red.—Hab. Jamaica!, *Pd.*, *Al.*, *Wils.*, in moist places; Antigua!, *Lane, Wullschl.;* [southern United States!; Cuba! to Brazil!; East Indies!].

3. DODECAS, *L.*

(Crenea, *Aubl.*)

Calyx shortly campanulate, 4-fid, devoid of accessory teeth: lobes contiguous. *Petals* 4. *Stamens* 12–16: anthers oblong, erect. *Ovary* 4(–"5")-celled. *Seeds* ∞, minute, fusiform: placenta at length free, central.—Glabrous herbs *or* shrubs; flowers *axillary, pedicellate.*

8. **D. maritimus,** *Gr.* Herbaceous; stem stiff, erect; leaves lanceolate or spathulate-lanceolate, tapering towards the subsessile base; *pedicels* 2-bracteolate above the middle,

longer than the flower, twice or more exceeded by the leaves.—*Aubl. t.* 209: differing from our form by broader leaves, and 3–1-flowered, axillary peduncles, the lateral flowers being axillary to the bracteoles.—Crenea, *Aubl.* D. surinamensis, *L.* (*C. repens*, Mey.!) has broader leaves, shorter pedicels, and is a shrubby species.—Stem simple or few-branched, 1′ high, with roots from the inferior nodes; leaves 2″–1″, pedicels 4‴–6‴, calyx 3‴ long; petals obovate, white.—HAB. Trinidad!, *Cr.*, in maritime swamps; [Guiana].

4. HEIMIA, *Lk. Ott.*

Calyx shortly campanulate, 6-toothed, corniculate with spreading appendages between the teeth. *Petals* 6. *Stamens* 12 (–15): anthers revolute-reniform. *Ovary* 4-celled. *Seeds* ∞, minute, obconical.—Glabrous shrubs; flowers *axillary, shortly pedicellate, yellow.*

This genus, by the structure of its anthers, differs from *Decadon*, but approaches *Antherylium* and *Ginoria*, two West Indian genera not yet observed in the British islands.

9. **H. salicifolia,** *Lk. and Ott.* Leaves lanceolate, tapering into the short petiole, opposite (or whorled); *calyx-lobes connivent-closed above the capsule;* petals obovate.—*Hook. Ic. t.* 554 *B, C.*—Nesæa, *Kth.*—HAB. Jamaica!, *March;* [Mexico to Brazil].

5*. LAWSONIA, *L.*

Calyx 4-partite, devoid of appendages. *Petals* 4, clawed. *Stamens* 8, inserted with the petals: anthers roundish. *Ovary* 4(–3)-celled. *Seeds* ∞, minute.—Glabrous shrubs; flowers *white, in corymbs.*

10*. **L. inermis,** *L.* Leaves elliptical-lanceolate, pointed; corymbs paniculate.—*Desc. Fl.* 8. *t.* 596.—L. alba, *Lam.*—Unarmed or thorny.—HAB. Naturalized in Jamaica!, *Al.*, Antigua!, *Wullschl.;* [Egypt!, Syria!, East Indies!].

Lagerstrœmia indica, L., is a tree, cultivated in Jamaica, S. Kitts!, Antigua!; *L. reginæ*, Roxb., in Jamaica (Macf.).

LXX. ONAGRARIEÆ.

Stamens definite, inserted into the valvate calyx. *Pollen-grains* connected by threads. *Ovary* inferior, at length mostly syncarpous: ovules ∞. *Seeds* exalbuminous.—Leaves *exstipulate; the West Indian species herbaceous.*

1. ISNARDIA, *L.*

Calyx-tube as long as the ovary: limb 4-partite. *Petals* small, 4 or none. *Stamens* 4. *Capsule* tardily loculicide, 4-valved. *Seeds* ∞, minute.—Aquatic herbs; flowers *axillary.*

1. **I. palustris,** *L.* Glabrous; stem rooting or floating; *leaves opposite*, elliptical, pointed, cuneate at the petioled base; flowers solitary, subsessile, usually apetalous; *capsule* cuboid-oblong, obtusely tetragonal, *rounded at the base*, truncate at the top.—*Fl. Dan.* 10. *t.* 1745.—Capsule 1‴–1½‴ long.—HAB. Jamaica!, *Al.*, at Moneague; [western and southern Europe!; Asia Minor! to Nepaul!; southern Africa!; Canada! to New Mexico! and Florida!].

2. **I. repens,** *DC.* Glabrous; stem rooting or floating; *leaves opposite*, elliptical, pointed, cuneate at the base; flowers solitary, shortly pedicellate or subsessile; petals small (or none); *capsule* oblong, obtusely tetragonal, *tapering towards the base*, truncate at the top.—*Sw. Ic. t.* 8.—Ludwigia, *Sw.!* L. natans, *Ell.*—Capsule 3‴: its pedicel 1‴ long or less; petals yellow.—HAB. Jamaica!, *Sw.*, *Pd.*, at the Ferry; [South Carolina to Texas!; Cuba].

3. **I. microcarpa,** *Poir.* Glabrous; stem ascending, simple or diffuse; *leaves alternate*, elliptical or elliptical-lanceolate, pointed, cuneate at the subsessile base; flowers solitary, sessile, apetalous; *capsule* small, obversely pyramidal, *shorter than the broad calyx-lobes.*—Ludwigia, *Mich.*—Stem spithameous; leaves 4‴–5‴ long; calyx-lobes broadly ovate, cuspidate, ¾‴ long.—HAB. Jamaica!, *Al.*, at Moneague; [South Carolina to Florida].

2. JUSSIÆA, *L.*

Calyx-tube obtuse-angled-cylindrical (or prismatical-obovate), as long as the ovary: limb 4–6-partite. *Petals* 4–6. *Stamens* 8–12. *Capsule* 4–6-celled, opening by destruction of the pericarp, with 8–12 filiform, persistent ribs. *Seeds* ∞, minute.—Herbs, *growing in swamps or aquatic;* leaves *alternate;* flowers *single, in the axils, usually yellow.*

* *Stem creeping or floating, perennial; petioles slender.*

4. **J. repens,** *L.* Glabrous or villous above; stem rooting or floating: branches ascending; *leaves* spathulate-lanceolate or oval, *tapering into a slender petiole, quite entire;* flowers pedicellate; calyx-lobes 5, lanceolate, acuminate, exceeded by the obovate petals; capsule obtuse-angled-cylindrical (8‴–10‴ long), longer than the pedicel, tapering at the base.—*Rheede, H. Malab.* 2. *t.* 51.—J. Swartziana, *DC.:* the glabrous, or usual West Indian form, but sent also from the East Indies. J. peploides, *Kth., Rich. Cub.* J. ramulosa, *DC.*—Leaves 6‴, petals 3‴–4‴ long; petioles usually shorter than the lamina.—Hab. Jamaica!, all coll., in marshes; [Missouri! to Valdivia! and Buenos Ayres!; Natal!; China! to East Indies!; Australia!].

5. **J. sedoides,** *Kth.* Glabrous; stem floating, rooting; *leaves* rhomboid, *obtusely serrate* beyond the cuneate base: petiole much longer than the lamina; flowers long-pedicellate; calyx-lobes 4, ovate or ovate-oblong, exceeded by the obovate petals; capsule (4‴–6‴ long), clavate, as long as the excrescent calyx-lobes, shorter than its pedicel.—*Humb. Pl. Equin. t.* 3 *A.*—Leaves 4‴–6‴ diam.; petals 4‴–5‴ long.—Hab. Jamaica!: *Pd.*, S. Elizabeth; [Panama!, New Granada, Brazil!].

** *Stem erect or ascending; leaves subsessile or shortly petioled, entire or repand.*

† *Capsule obtuse-angled-cylindrical or linear-prismatical.*

6. **J. acuminata,** *Sw.!* Glabrous; stem erect, slender; *leaves* lanceolate or linear-lanceolate, acuminate, *tapering into a short petiole; flowers sessile* or subsessile; calyx-lobes 4, lanceolate or ovate-lanceolate, pointed, as long as the spathulate petals; *capsule* (6‴–8‴, rarely 12‴ long) *shortly tapering at the sessile* or very shortly pedicellate *base.*—*Lam. Ill. t.* 280. *f.* 2.—J. erecta, *Lam., L. partim* (*non Sw.*), *DC.* γ. *Plumieriana* (*exclus. syn. Sw.*). J. nubica, *Hochst.!* J. linifolia, *V.:* a form with longer and closely sessile capsules.—Leaves 3″–2″, calyx-lobes 2‴–1‴, pedicels 1‴ long, or none.—Hab. Jamaica!, *Sw., March*, rare in moist situations; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Sch., Cr.;* [Venezuela!, Guiana!, Brazil!; trop. Africa! to Madagascar!; East Indies!].

7. **J. decurrens,** *DC.* Glabrous; stem erect, slender; *leaves* lanceolate-linear or lanceolate, *closely sessile: margins decurrent;* flowers shortly pedicellate; calyx-lobes 4, ovate-lanceolate, acuminate, as long as the obovate petals; *capsule* (6‴–8‴ *long*) narrowly 4-winged, shortly tapering into the short pedicel.—J. pterophora, *Miq.*—Stem narrowly winged by the decurrent leaves; leaves 3″–2″, calyx-lobes 3‴, capsule-pedicels 2‴–1‴ long. Leaves acuminate from the base, or, if broader, acute. The two glands, occurring on the pedicels, and at the leaf-base, are not always present.—Hab. Trinidad!, *Lockh., Cr.*, in swamps; [United States!; Guiana!, equatorial Brazil!].

8. **J. variabilis,** *Mey.!* Glabrous or pilose; stem erect, branched, suffrutescent; leaves lanceolate, bluntish at the top, gradually tapering towards the subsessile base; flowers subsessile; *calyx-lobes* 5 (rarely 4–6), ovate-lanceolate, acuminate, nearly as long as the obovate petals; *capsule* (12‴–15‴ *long*), shortly tapering into the short pedicel.—*Kth. Nov. Gen.* 6. *t.* 532.—J. pilosa, *Kth.* J. affinis, *DC.* J. pubescens, *L.?:* probably the hairy form.—Leaves 1″–4″, calyx-lobes 2‴–3‴, capsule-pedicels 1‴–2‴ long; petals included or shortly exserted, 3‴ long.—Hab. Jamaica!, *Al.*, at Moneague; Trinidad!, *Lockh., Cr.;* [Guadeloupe!, in wet places; Panama!, Guiana!, Brazil!].

9. **J. palustris,** *Mey.!* Glabrous or scabrous-puberulous above; leaves linear-lanceolate or lanceolate, tapering into a short petiole; *flowers shortly pedicellate; calyx-lobes* 4, (rarely 5), ovate-lanceolate, pointed, *as long as the obovate-oblong petals; capsule* (1″–1½″ long), tapering at the base, 6 *times as long as the pedicel*, slightly constricted at

the top.—J. erecta, *Sw.* (*non L.*).—Leaves 4″–1″, calyx-lobes 3‴–2‴, capsule-pedicels 2‴ long. The limits between this and the two following species are often obscure, but hybrid specimens may possibly occur, as in *Epilobium*.—HAB. Jamaica !, *Wullschl.*, in moist pastures; [Guiana !, Peru !].

10. **J. angustifolia,** *Lam.*—Glabrous or scabrous-puberulous above; leaves lanceolate or lanceolate-linear, tapering into a short petiole; *flowers shortly pedicellate; calyx-lobes* 4 ("rarely 5"), ovate-lanceolate, pointed; *petals obovate-oblong half as long again or twice as long as the calyx-lobes; capsule* (1″–1½″ *long*), tapering gradually towards the base, 4–3 *times as long as the pedicel.—Lam. Ill. t.* 280. *f.* 3; *Jacq. Amer. Pict. t.* 105; *Kth. Nov. Gen. t.* 530.—Œnothera octovalvis, *Jacq.* J. salicifolia, *Kth.* J. octonervia, *DC.* (*non Lam.*).—Leaves 4″–1″, calyx-lobes 4‴–3‴, capsule-pedicels 3‴–4‴ long.—HAB. Jamaica !, *Al.*, in moist marshes; Antigua !; [Cuba !, French islands !; Panama !, Guiana !, Peru !].

11. **J. suffruticosa,** *L.* Villous-pubescent or glabrescent above or glabrous below; leaves lanceolate-oblong, lanceolate, or lanceolate-linear, tapering into a short petiole; *flowers shortly pedicellate; calyx-lobes* 4 (rarely 5), *broadly ovate or elliptical, constricted at the base, cuspidate,* 2–3 *times exceeded by the broadly obovate petals; capsule* (1″–2″ long), tapering gradually towards the base, 3–4 *times as long as the pedicel.—Sl. t.* 11. *f.* 1; *Plum. Ed. Burm. t.* 175. *f.* 1; *Lam. Ill. t.* 280. *f.* 1; *Reichenb. Exot. t.* 57.—J. erecta, *L. partim* (*ex ic. Sl.*). J. octovalvis, *Sw.* J. occidentalis, *Nutt.*—Leaves 3″–1″, calyx-lobes 4‴–6‴, capsule-pedicels 3‴–6‴ long.

α. Villous-pubescent, or glabrescent below.—J. villosa, *Lam.* J. scabra, *W.* J. octofila, *DC.*

β. ligustrifolia, Kth. Glabrous below, pubescent or glabrescent above.—J. octonervia, *Lam.* (*non DC.*). J. longifolia, *DC.*: a narrow-leaved form.

HAB. Jamaica !, *Al.* (*α*), *Dist.*, *March* (*β*), common in wet places; Antigua !, *Wullschl.*; Dominica !, *Imr.*; Trinidad !, *Sch.*, *Cr.*; [Arkansas, Texas !; Cuba !, French islands !, Panama !, Venezuela !, Brazil; East Indies !].

†† *Capsule obovate-tetragonal.*

12. **J. hirta,** *V.* Villous-pubescent or glabrescent; leaves lanceolate-oblong or elliptical-oblong, shortly petioled: primary veins arcuate, secondary transverse; flowers pedicellate; *calyx-lobes* 4, *large, ovate, exceeded by the obovate-roundish petals; capsule* (8‴–10‴ long), *obovate-tetragonal, half as long as* or a little shorter than *the calyx-lobes,* tapering into the pedicel.—*Plum. Ed. Burm. t.* 174. *f.* 2; *Kth. Nov. Gen. t.* 533.—Œnothera, *L.* J. peruviana, *L.?*: petals 5. J. macrocarpa, *Kth.*—Stem suffrutescent; leaves 4″–2″ long; veins about 2‴ distant; calyx-lobes 4‴–8‴, petals 8‴–10‴, capsule-pedicels 6‴–8‴ (–3‴) long.—HAB. Jamaica !, *Pd.*, *Al.*, in moist pastures and woods; Trinidad !, *Lockh.*, *Cr.*; [Mexico !, Venezuela !, New Granada !, Peru !].

3. ŒNOTHERA, *L.*

Calyx-tube produced beyond the ovary: free part deciduous: limb 4-partite, reflexed. *Petals* 4. *Stamens* 8: anthers mostly linear. *Capsule* 4-celled, 4-valved. *Seeds* ∞, naked.—Herbs; leaves *alternate.*

13. **O. rosea,** *Ait.* Perennial, suffrutescent; stems virgate, puberulous; leaves oblong-lanceolate, dentate towards the base or lyrate; flowers distantly racemose, erect in the bud; free part of the calyx-tube shorter than the ovary; *petals rosy*, nocturnal, broadly obovate, small; stigma 4-lobed; capsule cartilaginous, clavate-tetragonal, 8-ribbed; seeds minute. —*Bot. Mag. t.* 347.—Petals 5‴–6‴ long.—HAB. Jamaica !, *Macf.*, *Pd.*, *Bancr.*, in coffee-plantations; [Mexico !, Peru !].

14*. **O. longiflora,** *Jacq.* "Biennial; stem erect, pilose; leaves oblong or lanceolate, denticulate; flowers large, erect in the bud; free part of the calyx-tube 3–4 times as long as the ovary, filiform; *petals yellow*, nocturnal, bilobed; stigma 4-partite: divisions elongated; stamens included; capsule linear: seeds minute, scrobiculate."—*Bot. Mag. t.* 365.—HAB. Naturalized in Jamaica (*Macf.*), in the mountains of S. Andrews; [introduced from Buenos Ayres].

LXXI. RHIZOPHOREÆ.

Stamens inserted into the valvate calyx. *Petals* often lacerate. *Ovary* syncarpous: ovules definite, hanging: style simple. *Seeds* exalbuminous, with the radicle perforating the fruit, or albuminous.—Woody plants; leaves *opposite, with interpetiolar stipules.*

The astringent bark of *Rhizophora* is employed for tanning.

1. RHIZOPHORA, *L.*

Calyx 4-partite. *Petals* 4. *Stamens* 8–12. *Ovary* semi-inferior, 2-celled: cells 2-ovulate. *Fruit* surrounded above the base by the persistent calyx-limb, 1-seeded by abortion: seeds exalbuminous, germinating on the tree.—Glabrous trees; branches *supported by simple vertical roots;* leaves *leathery, quite entire;* peduncles *axillary:* involucel *minute, bilobed.*

1. **R. Mangle**, *L.* Leaves obovate, oval, or obovate-lanceolate, blunt; peduncles divided, usually few-flowered; petals lacerate-woolly on the margin, exceeded by the calyx-limb; stamens 8.—*Jacq. Amer. Pict. t.* 132. *Desc. Fl.* 1. *t.* 10.—R. racemosa, *Mey.!*—Hab. Jamaica!, *Pd.;* Antigua!, *Wullschl.*, S. Vincent!, *Guild.*, constituting the swampy mangrove-woods along the coast; [Mexico! to Brazil!; Pacific islands; western coast of trop. Africa!].

2. CASSIPOUREA, *Aubl.*

Calyx campanulate, 5–4-fid. *Petals* 5–4, lacerate, clawed. *Stamens* ∞–10, inserted into the perigynous, annular disc. *Ovary* free, 3(-5)-celled: cell 2-ovulate: stigma 3-globose. *Capsule* 3-valved, 3-seeded by abortion: seeds albuminous.—Glabrous trees *or* shrubs; leaves *quite entire, or obsoletely serrate;* flowers *axillary, fascicled, glomerate or solitary.*

2. **C. elliptica,** *Poir.* Leaves elliptical, acute or bluntish at both ends; *calyx* 5–4-fid, glabrous, *as long as or shorter than the pedicel;* petal-limb fimbriate, villous.—*Hook. Ic. t.* 280: I find, however, only 2 ovules in each ovary-cell.—Legnotis, *Sw.*—A low tree or shrub, 30′–10′ high; leaves 4″–2″, calyx 3‴–2‴ long; anthers oblong, incumbent, at length exceeded by the strigose style.

α. Leaves quite entire, acute, gradually tapering into the short petiole; calyx usually 5-fid; petals pale-red; stamens 15–30, exserted.—A 4- or 5-fid calyx occurs in the same branch.

β. *alba*, Gr. (Pl. Carib.). Leaves quite entire, bluntish at both ends, shortly tapering into the petiole; calyx 4-fid; petals white; stamens 16–12 (–10), equalling the calyx.

γ. *pauciserrata.* Leaves with a few distant serratures, pointed, subacute at the base; pedicels subsolitary; calyx 4-fid.

Hab. Jamaica!, *Pd.*, in mountain woods (*α*); Dominica!, *Imr.* (*β*, *γ*); S. Vincent!, *Guild.;* Trinidad!, *Cr.*, at Tocuche; [Guadaloupe!, Panama!].

3. **C. guianensis,** *Aubl.* Leaves elliptical or elliptical-oblong, quite entire, shortly acuminate, rounded at the base; flowers glomerate; *calyx* 5-fid, glabrescent, *subsessile;* petal-limb fimbriate, villous; stamens exserted, 15–20.—*Aubl. t.* 211.—Leaves 5″–3″, calyx 3‴ long; style strigose, long-exserted.—Hab. Trinidad!, *Cr.*, in swamps on the eastern coast; [Guiana, Pará!].

LXXII. COMBRETACEÆ.

Stamens definite, inserted into the valvate calyx. *Ovary* inferior, simple, with a few ovules hanging from the top of its cavity: style simple. *Seed* solitary, exalbuminous.—Woody plants; leaves *exstipulate.*

The arboreous species afford excellent timber. The bark is rich in tannic acid. The oily seeds of *Terminalia Catappa* are eatable.

1. COMBRETUM, *L.*

Calyx-limb 4(–5)-lobed or dentate, deciduous. *Petals* 4 (–5). *Stamens* 8 (–10). *Achenium* 4(–5)-winged. *Cotyledons* fleshy, plaited.—Leaves *usually opposite, quite entire; flowers in spikes (or racemes).*

1. **C. Jacquini,** *Gr.* Scandent; branchlets cylindrical, rusty-pubescent above; leaves opposite, oval or oblong, glabrous; spikes cylindrical, compound: bracts deciduous, filiform, half as long as the pubescent ovary; *calyx-limb cyathiform,* not so long as the tube: *teeth minute; petals* 4, *roundish, glabrous,* exserted: their diameter almost as long as the length of the calyx-limb; *stamens thrice as long as the calyx-limb;* achenium oblong: wings as broad as its transverse diameter.—C. laxum, *Jacq.* 1763, *Sw.!* (*non Lœfl.* 1758, *et Aubl.*). C. variabile, *Pl. Spruce.!* (*an Mart.?*). C. obtusifolium, *Rich. ex ic. Miq. Surin. t.* 16: apparently a form with spathulate, blunt leaves.—An unarmed, high vine; leaves variable; flowers yellowish-white; calyx-tube 1‴, stamens 2‴, achenium 8‴ long.—HAB. West Indies!, *Sw.;* Jamaica (*Macf.*), in thickets, Westmoreland; [Haiti; Honduras!, Panama!, equat. Brazil!].

2. **C. eriopetalum,** *G. Don.* Branchlets cylindrical, puberulous above; leaves opposite, elliptical-oblong, glabrous; spikes cylindrical, lax, often compound: bracts subpersistent, linear, nearly as long as the glabrescent ovary; *calyx-limb cyathiform,* as long as the tube: teeth distinct; *petals* 5, *oblong, villous,* exserted, as long as the calyx-limb, thrice the length of the calyx-teeth; *stamens thrice as long as the petals;* achenium oblong-linear: wings 5, broader than its transverse diameter.—*DC. in Mém. Gen.* 4. *t.* 5 *A.*—Poivrea, *DC.:* not having seen the embryo, I refer it to *Combretum,* upon Planchon's authority.—A trailing shrub, nearly allied to the preceding; calyx-tube $\frac{2}{3}$‴, stamens 2‴, achenium 5‴–6‴ long. —HAB. S. Vincent!, *Guild.;* Trinidad!, *Pd.;* [Cuba, Haiti].

3. **C. laxum,** *Lœfl.* Branchlets usually tetragonal, pubescent above or glabrate; leaves opposite, oval-oblong or elliptical, glabrous; spikes large, half-cylindrical, simple, ebracteate: *flowers turned to one side, lepidote; calyx-limb turbinate,* half as long as the tube, 4-*lobed,* internally villous: lobes deltoid; petals small, elliptical, glabrous, exceeded a little by the calyx-lobes; *stamens* 6–8 *times as long as the calyx-limb;* achenium "oval-oblong."—*Aubl. t.* 137; *Jacq. Amer. Pict. t.* 260. *f.* 26.—C. secundum, *Jacq.* C. rotundifolium, *Rich.* C. elegans, *Kth.* C. Aubletii, *DC.* C. micropetalum, *DC.* C. guianense, *Miq.!.* C. punctatum, *Steud.!*—An unarmed, high, scandent or arborescent shrub; leaves blunt or pointed; flowers red or yellow, with red filaments; calyx-tube 3‴, stamens 9‴–12‴ long. —HAB. Trinidad!, *Lockh., Sch., Cr.;* [Venezuela, New Granada, Guiana!].

2. CACOUCIA, *Aubl.*

Calyx-limb campanulate, shortly 5-fid, deciduous. *Petals* 5. *Stamens* 10–15. *Drupe* pentagonal. *Cotyledons* fleshy.—Scandent shrubs; leaves *opposite, quite entire; flowers crimson, large, in an elongated terminal raceme.*

4. **C. coccinea,** *Aubl.* Leaves elliptical, glabrous or pubescent on the nerves beneath: petioles and racemes rusty-tomentose; bracts lanceolate-linear, equalling or exceeding the shortly pedicellate calyx-tube; petals elliptical, shortly exserted; stamens twice as long as the calyx-tube; drupe "large, obtuse-angled-elliptical."—*Aubl. t.* 179.—The leaves, said to be alternate, are opposite in our specimens, as in those described in Meyer's Fl. Esseq., but the bracts alternate. Raceme 1′, pedicels 1‴–2‴, calyx-tube 3‴, calyx-limb 6‴ long.— HAB. Trinidad!, *Pd.;* [Guiana!].

3. CHUNCOA, *Pav.*

(Chicharronia, *Rich. Cub.*)

Calyx-limb cyathiform, 5-fid, deciduous. *Petals* 0. *Stamens* 10. *Samara* laterally 2-winged: the inferior and two superior ribs less developed. Cotyledons....—Trees or shrubs; leaves *alternate, quite entire;* flowers *in spikes.*

5. **C. arbuscula,** *Gr.* Branchlets pubescent; *leaves oblong* or lanceolate-oblong, pubescent, at length glabrate, chartaceous, approximate at the top of the branchlets: *petiole long,*

eglandular; spikes axillary, peduncled, rusty-pubescent; stamens exserted; samara-wings "half-round, repand, subtruncate at the top, as broad as the longitudinal diameter of the nut, ribs obsolete."—*Rich. Cub. t.* 43.—Terminalia, *Sw.!* Chicharronia intermedia, *Rich.* —A shrub (*Sw.*), or middle-sized tree (*Rich.*); leaves 3″–1½″ long, 1″–½″ broad: petiole 3‴–6‴ long; spikes 1″–2″ long, bracteate; calyx-limb 1‴ long, as long as the cylindrical tube.—HAB. Jamaica!, *Sw.*, in the northern hills; [Cuba].

6. **C. obovata,** *Poir.* Branchlets rusty-pubescent, glabrate; *leaves obovate, tapering at the base into a short,* eglandular *petiole,* glabrescent, rigid; spikes compound, terminal, rusty-pubescent: branches approximate, subsessile; stamens exserted; samara-wings oblong, rounded at the top, horizontal, twice as long as the longitudinal diameter of the nut: crested ribs as broad as its transverse diameter.—A timber-tree; leaves 2½″–1½″ long, 1½″–1″ broad: petiole 1‴–2‴ long: spikes 1″ long, bracteate; flowers as in the preceding; samara-wings 5‴–4‴ long.—HAB. Trinidad!: *Cr.;* [Panama!, Peru].

4. TERMINALIA, *L.*

Flowers usually polygamous. *Calyx-limb* cyathiform, 5-fid, deciduous. *Petals* 0. *Stamens* 10. *Pericarp* drupaceous. *Cotyledons* foliaceous, convolute.—Trees; leaves *alternate, quite entire, or repand;* flowers *in slender, axillary spikes.*

7. **T. latifolia,** *Sw.* *Leaves* obovate-oblong, *tapering into the long petiole,* glabrate, or pubescent beneath, subeglandular at the base; spikes simple, peduncled, cylindrical, ♂ above, with the distant ⚥ flowers at the base; *drupe* elliptical, *pointed,* biconvex: margins navicular-acute.– 80′ to above 100′ high; leaves 6″–12″, approximate at the top of the branches, often with small glands or hair-tufts in the vein-axils beneath, but devoid of the large glands of *T. Catappa:* petiole 1″ long; spikes usually half as long as the leaves; stamens scarcely exserted; drupe 1½″–2″ long.—HAB. Jamaica!, all coll., common in woods, S. Anns, Manchester, S. Elizabeth.

8*. **T. Catappa,** *L.* *Leaves* cuneate-obovate or obovate-oblong, *rounded or subcordate at the tapering base* (rarely tapering into the petiole), *biglandular beneath at the base,* glabrous above, glabrescent beneath; spikes simple, peduncled, cylindrical, ♂ above, with distant ⚥ flowers at the base; *drupe* oval-oblong, *rounded at both ends,* compressed: margins produced into a narrow wing.—*Bot. Mag. t.* 3004. *Desc. Fl.* 4. *t.* 279.—30′–50′ high, very similar to preceding; drupe 1½″–2″ long, 1″ broad: its wing 1‴–2‴ broad.—HAB. Naturalized in Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* cultivated and common in Jamaica (*Macf.*); [naturalized from Cuba! to Guiana!; introduced from the old world: East Indies!, Arabia!, trop. Africa!].

5. LAGUNCULARIA, *G.*

Flowers polygamous. *Calyx-limb* short, 5-lobed, persistent: ♀ tube campanulate. *Petals* 5, minute, deciduous. *Stamens* 10, included. *Nut* obovate, slightly 2-winged.—A tree or shrub; leaves *opposite, quite entire, veinless: petiole biglandular above;* flowers *in peduncled spikes.*

9. **L. racemosa,** *G.*—*Jacq. Amer. Pict. t.* 79.—Conocarpus, *L.*—Leaves oval-oblong or oval, long-petioled, glabrous; spikes usually compound at the base, and white-pubescent; nut 6‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, *March,* common along bays and lagoons; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* [Cuba! to Bahia!, along the coast of the Atlantic and Mexican sea; Fernando Po!, on the African coast].

6. BUCIDA, *L.*

Calyx-limb cyathiform, minutely 5-dentate, persistent or tardily deciduous. *Petals* 0. *Stamens* 10: 5 longer and higher inserted. *Pericarp* drupaceous. *Cotyledons* foliaceous, convolute.—Trees; leaves *alternate, blunt, eglandular, approximate at the top of the branches;* flowers *in axillary, peduncled spikes.*

10. **B. Buceras,** *L.* Leaves obovate or spathulate-lanceolate, glabrous above, sericeous and glabrate beneath; *spikes cylindrical,* sericeous or villous-pubescent: flowers subdistant; stamens long-exserted: anthers cordate, pointed; *drupe* dry, small, *ovate-conical, crowned*

with the persistent calyx-limb.—*Sl. t.* 189. *f.* 3; *Br. Jam. t.* 23. *f.* 1.—B. angustifolia, *DC.*: the narrow-leaved form: other characters, assigned to it by Richard, prove fallacious, spines occurring also in the common form, and the length of the petiole and the down of the flowers being variable.—20′–30′ high; leaves variable; drupe 3‴ long. A monstrosity of the flowers, transformed into long, cylindrical, arcuate bodies, is peculiar to this species.—HAB. Bahamas!, *Swains.*; Jamaica!, all coll., in marshes along the coast; Antigua!, *Wullschl.*; [Cuba!, S. Thomas!, Guadeloupe!; Chagres!].

11. **B. capitata,** *V.* Leaves spathulate or obovate-oblong, glabrous above, glabrate beneath, with rusty down persistent on the midrib and margin; *spikes ovate*, long-peduncled, rusty-pubescent; stamens shortly exserted: anthers roundish; *drupe ovoid: calyx-limb at length deciduous.*—*Vahl, Eclog.* 1. *t.* 8.—B. angustifolia, *Pl. Spruce.* 2438.—30′–60′ high; leaves 1″–1½″ long; spikes either short (2‴ diam.) or longer (8‴ long, 3‴ broad, *Ryan in Hb. Bks.*); drupe 6‴ long.—HAB. Jamaica!, *Pd.*, *Al.*, on limestone hills, Port Royal, S. Anns; Montserrat, Antigua!, *Nichols.*; [Cuba!, Guiana!, equat. Brazil!].

7. CONOCARPUS, *L.*

Calyx-limb 5-fid, deciduous. *Petals* 0. *Stamens* 5–10. *Achenium* margined, scale-like. *Cotyledons* foliaceous, convolute.—Leaves *alternate*; flowers *in peduncled, globose flower-heads.*

12. **C. erectus,** *L.* Leaves lanceolate or elliptical, usually biglandular on the margin, at the base glabrous or sericeous; flower-heads racemose or paniculate; *calyx-tube not produced beyond the ovary*; stamens 5 (–6); achenia imbricated, cymbiform, roundish, concave and keeled above, convex beneath, acute on the margin.—*Sl. t.* 161. *f.* 2; *Jacq. Amer. Pict. t.* 78; *Desc. Fl.* 6. *t.* 399: a form with hair-tufts in the vein-axils.

α. Arboreous; leaves lanceolate, glabrous or glabrescent.

β. *procumbens*, Jacq. Shrubby; leaves elliptical, glabrescent.—*Jacq. Amer. Pict. t.* 260. *f.* 22.

γ. *sericeus.* Leaves lanceolate or lanceolate-elliptical, sericeous with persistent down.

HAB. Bahamas!, *Swains.* (α, γ); Jamaica!, all coll.: α common in mangrove swamps along the coast, β on rocks; Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; [Florida! to Brazil!; Galapagos!, Marianne Islands!; tropical coast of Africa!].

LXXIII. PROTEACEÆ.

Flowers apetalous. *Stamens* 4, opposite to the valvate, coloured calyx-divisions, mostly perigynous. *Ovary* superior, simple: style simple. *Seeds* exalbuminous. *Embryo* straight: radicle inferior.—Leaves *exstipulate*; inflorescence *centripetal.*

Roupala affords hard timber in Trinidad.

1. ROUPALA, *Aubl.*

(Rhopala, *Schreb.*)

Sepals linear, recurved at the top, staminiferous above or at the middle, at length distinct. *Stamens* exserted. *Ovary* 2-ovulate, surrounded by 4 glands: stigma terminal, clavate. *Pericarp* follicular, or at length 2-valved: seeds oblong, compressed, surrounded by a wing: wing produced at both ends.—Trees *or* shrubs; leaves *alternate, entire, dentate or pinnatipartite in the same branch*; flowers *racemose: pedicels geminate.*

1. **R. montana,** *Aubl.* *Leaves glabrous*, ovate or elliptical, entire or coarsely serrate, often complicated at the base, long-petioled: the pinnatipartite ones often wanting or with narrower segments; *racemes* axillary, *pubescent*: pedicels slightly connected at the base, one-half or one-third as long as the flower.—*Aubl. t.* 32.—Leaves exceedingly variable, and racemes of various length; calyx 3‴–4‴ long; fruit bivalved, acinaciform, 1″ long.

[α. Leaves elliptical, pointed at both ends, usually quite entire, 2″–3″ long.]

β. *complicata*, Kth. Leaves ovate, shortly apiculate, quite entire or pauciserrate beyond the middle, 3″–4″ long: petiole 2″ long.—*Kth. Nov. Gen. t.* 119.

γ. *heterophylla.* Simple leaves elliptical or ovate, acuminate, coarsely serrate beyond the base, rarely quite entire: segments of pinnatipartite ones 3–9-jugal, either large, ovate, or small, ovate-lanceolate and lanceolate.—Simple leaves 3″–6″ long, segments ¾″–4″ long.

HAB. Trinidad! (β, γ), *Pd.*, *Cr.*, in the northern mountain-woods; [Isthmus! (α, β, γ), Venezuela! (α, β), Guiana!, Brazil].

LXXIV. THYMELEÆ.

Flowers apetalous. *Stamens* definite, inserted into the imbricative, coloured calyx. *Ovary* superior, usually simple: ovule usually solitary, laterally affixed: style simple. *Seed* exalbuminous or with a thin perisperm. *Embryo* straight: radicle superior.—Leaves *exstipulate, quite entire.*

This Order contains an acrid principle, which acts upon the skin as a vesicatory. Animals feeding on the berries of *Daphnopsis* in Dominica are considered poisonous (*Imr.*). The inner bark of *Daphnopsis* and *Lagetta* (the Lace-bark tree of Jamaica) afford an esteemed fibre. In Trinidad the bark of *Schœnobiblus* is used as a substitute for rope (*Pd.*).

1. SCHŒNOBIBLUS, *Mart. Zucc.*

Flowers diœcious. *Calyx* ♂ 4-partite, rotate, ♀ . . . . *Stamens* 4, inserted into the calyx-segments: filaments long.—A shrub; leaves *alternate;* flowers *in peduncled, corymbose umbels.*

1. **S. daphnoides,** *Mart. Zucc.—Mart. Fl. Bras.* 14. *t.* 28. *f.* 2: the leaves narrower and the flowers smaller than in our plant, which however presents no specific difference.—Leaves subsessile, chartaceous, lanceolate-oblong, pointed, glabrous, 12″–8″ long, 3″–2″ broad; corymbs rusty-pubescent: pedicels filiform, 8‴–10‴ long; calyx-segments linear, blunt, 4‴ long, nearly twice as long as the stamens.—HAB. Trinidad!, *Pd.*, in shady woods near Arima; [Venezuela!, equat. Brazil].

2. DAPHNOPSIS, *Mart. Zucc.*

Flowers diœcious: ♂ with a rudimentary pistil. *Calyx* salver-shaped, supported by a minute, denticulate involucel: limb 4-partite. *Hypogynous scales* 4. *Anthers* 8, subsessile. *Stigma* terminal, subsessile. *Berry* naked: seed exalbuminous.—Leaves *alternate;* flowers *in peduncled heads or umbels.*

2. **D. Swartzii,** *Meisn.* Branchlets puberulous; *leaves* chartaceous, lanceolate or lanceolate-oblong, *discolor*, glabrous above, *hoary-puberulous beneath; peduncles simple: flowers shortly pedicellate,* sericeous; calyx-tube infundibular, thrice as long as the limb: lobes lanceolate, pointed, recurved; berry "ovoid."—Daphne occidentalis, *Sw.* Hargasseria, *Gr.*—A shrub; leaves 4″–3″ long, 18‴–10‴ broad, tapering into the short petiole, pointed or blunt; peduncles 1″–1½″, pedicels 1‴, calyx-tube 4‴, limb 1½‴ long; flowers whitish.—HAB. Jamaica!, *Pd.*, *Al.*, in the high southern mountains; [Guadeloupe (*Wickstr.*)].

3. **D. tinifolia,** *Gr.* Branchlets glabrous; *leaves* chartaceous or subcoriaceous, lanceolate-oblong, elliptical-lanceolate or elliptical, *concolor, glabrous; flower-heads cymose,* hoary-sericeous: flowers sessile, ♀ peripherical, at length pedicellate, central ones in both sexes less developed; ♂ *calyx-tube filiform-clavate,* 3–4 *times as long as the limb,* ♀ infundibular, at length campanulate: lobes bluntish, recurved; *berry* ellipsoidal, pointed, *as long as the excrescent pedicel.*—Daphne, *Sw.* Nordmannia, *Fisch. Mey.* Hargasseria, *Endl.* D. tinifolia, β, Cumingii, *Meisn.*—A tree, 20′–30′ high; leaves usually pointed, 3″–4″ long, shortly petioled; peduncles sericeous, several times dichotomous or 2–3-furcate; ♂ calyx-tube 4‴–5‴, ♀ 2‴–3‴, berry 4‴ long; flowers yellowish, ♀ with abortive anthers and the stigma subexserted.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, *March*, *Wullschl.*, in the southern and western mountains.

4. **D. caribæa,** *Gr.* Branchlets glabrous; *leaves* subcoriaceous, lanceolate-oblong, *concolor, glabrous,* veiny; *flower-heads cymose,* hoary-pubescent: flowers sessile or ♀ subsessile, central ones less developed; ♂ *calyx-tube clavate, twice as long as the limb,* ♀ in-

fundibular, at length campanulate : lobes bluntish, recurved; *berry* ellipsoidal, pointed, *much longer than the very short pedicel.*—D. tinifolia, *Meisn.*, *α.*—Habit of the preceding; leaves usually narrower; peduncles several times dichotomous; ♂ calyx-tube 2‴–3‴, ♀ 2‴–1½‴, berry 3‴, its pedicel scarcely 1‴ long, and nearly equalling the spreading involucel.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*

3. LAGETTA, *Juss.*

Calyx campanulate, fleshy, 4-dentate. *Anthers* 8, subsessile. *Hypogynous scales* 0. *Ovary* hirsute, tapering into a short terminal style: stigma truncate. *Pericarp* "drupaceous."—A tree: *liber formed of interlaced fibres;* leaves *alternate;* flowers *white, in lax, ebracteate spikes.*

5. **L. lintearia,** *Lam.*—*Sl. t.* 168. *f.* 1–3; *Hook. Journ.* 2. *t.* 4; *Bot. Mag. t.* 4502.—Daphne Lagetta, *Sw.*—25′–30′ high, glabrous; leaves broad-ovate, pointed, shortly petioled, evergreen, 3″–5″ long; calyx 4‴–5‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, in the south-western districts of Vere, Clarendon, Manchester, and S. Elizabeth, on limestone rocks, often in almost inaccessible places; [Haiti].

LXXV. LAURINEÆ.

Flowers apetalous. *Calyx-divisions* 6 (–4), imbricative. *Stamens* definite, perigynous: anthers dehiscent by valves. *Ovary* superior, simple: ovule 1, pendulous: style simple. *Seed* exalbuminous. *Embryo* straight: radicle superior.—Leaves *exstipulate, quite entire.*

All organs abound in essential oils. The Cinnamon (*Cinnamomum*) and China-Camphor (*Camphora*) are the produce of Asiatic *Laurineæ*, naturalized in America. The fruit of the Avocado Pear (*Persea gratissima*) is much eaten. The embryo of *Laurineæ* is rich in fixed oil. Many are timber-trees, *e.g. Nectandra exaltata* and *sanguinea*, *Acrodiclidium jamaicense*, *Oreodaphne coriacea.*

All the West Indian *Laurineæ* belong to those genera in which the three interior anthers are extrorse, and the six exterior introrse.

1*. CINNAMOMUM, *Bl.*

Calyx 6-partite: limb at length deciduous above the base of the segments. *Fertile stamens* 9: anthers 4-celled. *Berry* supported by a 6-fid or subtruncate, hardened cupule.—Trees; leaves 3–*triplinerved, nearly opposite;* flower-fascicles *paniculate.*

1*. **C. zeylanicum,** *Bl.* Branches subtetragonal, glabrous; leaves ovate or oblong: 3 nerves prominulous on the nearly veinless, glaucous under-side; calyx sericeous, circumscissile at the middle; berry ovoid-oblong.—*Jacq. Amer. Pict. t.* 117.—Laurus Cinnamomum, *L.* L. Cassia, *L.:* the oblong-leaved form.—HAB. Naturalized in Jamaica!, *Al.* and the Caribbean Islands!; [introduced from the East Indies].

2. PHŒBE, *Ns.*

Calyx 6-partite, wholly persistent. *Fertile stamens* 9: anthers 4-celled. *Berry* supported by a 6-fid, hardened cupule.—Trees; leaves *alternate, archnerved;* flower-fascicles *paniculate.*

2. **P. montana,** *Gr.* Branchlets and panicles pubescent; *leaves* ovate or ovate-lanceolate, *puberulous* (or glabrate) *beneath: primary veins prominulous beneath, the lowest pair opposite;* pedicels as long as the flower; sterile stamens 3, oblong; berry ellipsoidal-oblong, blunt, much longer than the spreading cupule.—Laurus, *Sw.!* Cinnamomum, *Ns.*—Allied to *P. cinnamomifolia*, Ns., and equally variable in the leaves. A large tree; leaves bluntish or bluntly acuminate, about 3″ long: opposite vein-pair valid, 2‴–3‴ distant from the base; calyx 1‴ long; anthers oblong, as long as the filament: interior 3 filaments biglandular at the base, as long as the sterile, puberulous stamens; berry 6‴ long, 3‴ broad: cupule flat, 1‴ high, tapering into the turbinate pedicel.—HAB. Jamaica!, *Sw.*, *Macf.*, *Al.*, *March*, in mountain woods; [Cuba!].

3. PERSEA, *G.*

Calyx 6-partite, at length wholly deciduous. *Fertile stamens* 9 (–12): anthers 4-celled. *Berry* naked, supported by the thickened pedicel.—Trees; leaves *alternate, arch-nerved;* flower-fascicles *paniculate.*

3. **P. gratissima,** *G.* Branchlets and panicles pubescent; leaves elliptical-oblong or elliptical, glabrate and pale beneath: primary veins 5–6-jugal, prominent beneath; pedicels shorter than the flower; *calyx-segments nearly equal;* berry large, obovate.—*Sl. t.* 222. *f.* 3; *Tuss. Fl.* 3. *t.* 3; *Desc. Fl.* 8. *t.* 579.—Laurus Persea, *L.*—Leaves 4″–7″, calyx 2‴, berry 5‴–6‴ long.—Hab. Jamaica!, *Sw.*, *Al.*, *Dist.*, naturalized, common; Antigua!, S. Vincent!; Trinidad!, *Sieb. Trin.* 69; [Mexico! to Peru! and Brazil; naturalized in Madeira!].

4. **P. alpigena,** *Spreng.* Branchlets and racemes pubescent; leaves elliptical, puberulous and pale beneath: primary veins 4–5-jugal, alternate, prominent beneath; flowers in simple or once compound, peduncled racemes; *calyx* tomentose: 3 *exterior segments* minute, roundish, *thrice shorter than the inner ones;* berry . . . .—Laurus, *Sw.*—Allied to *P. pyrifolia,* Ns., but fruit unknown. A middle-sized tree; leaves 4″–2″, inner calyx-segments 3‴ long.—Hab. Jamaica!, *Sw.*, *Macf.*, in the high mountains.

4. HUFELANDIA, *Ns.*

Calyx 6-fid, wholly deciduous. *Fertile stamens* 9: anthers 2-celled. *Berry* naked, supported by the disc.—Trees; leaves *alternate, arch-nerved;* flower-fascicles *paniculate.*

5. **H. pendula,** *Ns.* Branchlets and panicles slightly puberulous or glabrescent; *leaves* elliptical or elliptical-oblong, with a bluntish point, glabrous, *glaucous beneath:* primary veins prominulous beneath, distant; panicle lax: fascicles distant; calyx long-pedicellate, glabrescent, villous within; *berry* oval-oblong, *cernuous:* disc minute.—Laurus, *Sw.!*—15′–20′ high; leaves 5″–3″, pedicels 3‴, calyx 1‴, berry 10‴–12‴ long; interior fertile stamens biglandulose, sterile 3; berry rounded at both ends, 6‴ diam.—Hab. Jamaica!, *Sw.*, *March,* in mountain woods; [Cuba!].

5. ACRODICLIDIUM, *Ns.*

Calyx 6-fid or 6-dentate: limb deciduous. *Fertile stamens* 3, contiguous: anthers 2-celled, subsessile, bursting with 2 terminal valves. *Berry* supported by a truncate, margined cupule.—Trees; leaves *alternate, archnerved;* flower-fascicles *paniculate.*

6. **A. jamaicense,** *Ns.!* *Glabrous* (or glabrate at the summit); leaves lanceolate-oblong or elliptical-oblong, shining, reticulated-veiny beneath; flower-fascicles umbelliform: pedicels purpurascent, as long as the turbinate 6-fid calyx; 6 *exterior stamens wanting;* berry ovoid, scarcely twice as long as the rugulose cupule.—Laurus triandra, *Sw.!* L. parviflora, *Pœpp. Cub.!* (*non* Phœbe cubensis, *Ns.*).—30′ high; leaves 3″–4″, calyx 1‴, fruit 6‴–8‴ long; flowers white, at length purple; disc filling up the calyx-tube, pubescent, bearing 6 exterior glands, but no interior or exterior sterile stamens; cupule at length 6‴ diam.: exterior margin exceeded by the appressed, interior one, which is formed by the disc; berry dry, at first pointed, subglobose, at length rounded at the top, but often the fruit remains small, and included within the cupule.—Hab. Jamaica!, *Sw.*, *Macf.*, *Wils.*, *M'Nab*, *Al.*, *Wils.*, *March,* in mountain woods.

7. **A. sericeum,** *Gr.* (*n. sp.*). *Branchlets and panicles sericeous; leaves* lanceolate, pointleted-acuminate, tapering at the base, *sericeous* with scattered hairs, at length glabrate above: *veins delicate,* reticulated; pedicels as long as the 6-dentate, globose, sericeous calyx; 6 *exterior stamens* roundish, *sterile,* devoid of valves; berry . . . .—Leaves 3″–4″ long, 10‴–14‴ broad: petiole 3‴–4‴ long; panicles racemiform, spreading, exceeded by the leaves; calyx 1‴ diam., filled up with sericeous bristles between the stamens; 3 fertile stamens with short filaments: anthers globose, with 2 minute, terminal valves; ovary tapering into the style: stigma minute.—Hab. Dominica!, *Imr.*

8. **A. salicifolium,** *Gr.* *Branchlets rusty-pubescent; leaves* rigid, lanceolate, or ob-

long-lanceolate, acuminate, bluntish or pointed at the top, *glabrous* or glabrate beneath: *veins* strong, *costate and reticulated beneath* with a prominulous network; flowers in short, axillary racemes, strigillose-pubescent; calyx 6-fid, globose; *anthers* roundish, 6 *exterior sterile,* devoid of valves; cupule cupuliform, half as long as the ovoid-oblong berry: margin double, exterior spreading, interior appressed.—Laurus, *Sw.!* Aydendron microbotryum, *Ns.*—A middle-sized tree; leaves 4″–2″ long, 10‴–8‴ broad, usually shining above, pale beneath: petiole 3‴–4‴ long; racemes often little exceeding the petiole; calyx 1‴ diam.; berry 5‴–6‴ long.—HAB. Caribbean Islands!, *Sw.;* [Guadeloupe!].

6. NECTANDRA, *Rottb.*

Calyx 6-partite, rotate: limb deciduous. *Fertile stamens* 9: anthers 4-celled, broad, all or exterior subsessile, or with a short filament. *Berry* supported by a truncate cupule.—Leaves *usually alternate, arch-nerved;* flower-fascicles *paniculate.*

Sect. 1. EUNECTANDRA.—*Anthers roundish: cells arranged in an arch.*

* *Leaves shining, reticulated-veiny: network prominulous on both sides.*

9. **N. sanguinea,** *Rottb.* Branchlets purple, puberulous; leaves chartaceous, lanceolate-oblong or elliptical-oblong, with a bluntish point, glabrous or glabrescent, shining above: network of veins slightly prominulous on both sides; panicle spreading, puberulous; *calyx* as long as the pedicels: *segments oblong,* blunt, pubescent; *anthers equal,* sessile, obovate-roundish: 3 interior sterile stamens clavate; *cupule* short, cyathiform, appressed, 5 *times shorter than the ovoid* or obovate-globose *berry.*—*Sl. t.* 166. *f.* 1. *Jacq. Coll. t.* 5. *f.* 2.—Laurus Borbonia, *Hb. Bks., Poit.!* L. martinicensis, *Jacq.* N. concinna, *Ns.?*—A tree, 50′ high; leaves 6″–2″ long, 2½″–1″ broad; calyx 3‴–4‴ diam., white, fragrant; interior fertile stamens biglandular on the back; cupule 1½‴ high, turbinate at the base, subdistinct from the pedicel; berry rounded above, often slightly mucronulate, 7‴–8‴ long, 3‴–4‴ diam.—HAB. Bahamas!, *Swains.;* Jamaica!, all coll., common in the lowlands; Antigua!, *Wullschl.,* Dominica, *Imr.;* Trinidad!, *Sieb. Tr.* 99; [Cuba! and Mexico! to Brazil! and Peru!].

10. **N. exaltata,** *Gr.* Branchlets brown, subsericeous; leaves chartaceous, lanceolate-oblong or elliptical, bluntish, glabrous or bearded beneath in the inferior vein-axils: network of veins prominulous on both sides; panicle spreading, subsericeous; *calyx* as long as the pedicels: *segments ovate-oblong,* blunt, subsericeous-pubescent; *anthers equal,* roundish: 3 interior sterile stamens clavate; "*cupule* urceolate, *half as long as the ovoid berry.*"—Laurus, *Sw.!* Oreodaphne, *Ns.*—Nearly allied to the preceding, and, without fruit, only to be distinguished by its appressed, subsericeous down, the brown bark, and smaller flowers.—A high tree; leaves 3″–4″ long: the vein-axils are bearded in all (except Swartz's) specimens; calyx 2‴ diam.—HAB. Jamaica!, *Sw., Wullschl.,* in mountain woods of the western districts, Manchester; Dominica!, *Imr.*

11. **N. coriacea,** *Gr.* Branchlets purple, glabrous; leaves leathery, elliptical-oblong, with a bluntish point, glabrous, shining above: network of veins strongly prominulous on both sides; *panicles* axillary, *racemiform,* cernuous, exceeded by the leaves, puberulous; *calyx* as long as the pedicels: *segments oblong,* blunt, pubescent chiefly inside: 6 *exterior stamens subsessile,* roundish, 3 *interior exserted,* spathulate, with a biglandular filament: 3 interior sterile stamens minute, clavate; berry . . . .—Laurus, *Sw.!* (*non* Oreodaphne, *Ns.*).—A tree, 30′ high; leaves 6″–3″ long, 2½″–1″ broad, larger than in the usual forms of *N. sanguinea;* calyx 2‴ diam., whitish, fragrant; 3 interior fertile stamens twice as long as the exterior, its inferior cells extrorse, the superior lateral.—HAB. Jamaica!, *Sw., Bancr.,* in the higher mountains.

12. **N. patens,** *Gr.* Branchlets greyish-brown, glabrous; leaves membranaceous, at length chartaceous, ovate-oblong or elliptical-oblong, often repand, with a bluntish point, glabrous, shining above: network of veins slightly prominulous on both sides; panicles axillary, lax, spreading, puberulous above, usually exceeded by the leaves; *calyx* often shorter than the cernuous pedicel: *segments ovate,* blunt, pubescent chiefly inside; 6 *exterior anthers subsessile, roundish:* 3 *interior spathulate, with a* biglandular *filament:* sterile stamens transformed into glands; *cupule short, scutellate, supported by the* length-

ened, *clavate pedicel;* berry . . . .—Laurus, *Sw.!* (*non* Phœbe, *Ns.*). L. latifolia, *Hb. Bks.* —A middle-sized tree; leaves variable, 6″–3″ long, 3″–1½″ broad, shortly tapering into the petiole; calyx 2‴ diam., greenish-white; cupule 1‴ high, 2‴ diam.: clavate pedicel 4‴ long.—HAB. Jamaica!, *Sw.*, *Macf.*, *Pd.*, *M'Nab*, *Al.*, in mountain woods.

** *Leaves mostly polished above: primary veins costate, distant, prominent beneath and forming lengthened arches, secondary transverse.*

13. **N. membranacea,** *Gr.* Branchlets purple, puberulous, glabrate; *leaves* chartaceous, ovate-oblong or elliptical, shortly acuminate, *glabrous, shining,* polished above: *primary veins* 4–6 on each side of the midrib, impressed above, prominent beneath, secondary delicate; panicles axillary, exceeded by the leaves, puberulous; *calyx-segments ovate, blunt;* anthers equal, sessile, roundish, interior biglandular: sterile stamens . . . , berry . . . .—Laurus, *Sw.!* (*non* Phœbe, *Ns.*).—A high tree; leaves 6″–4″ long, 2″–1⅓″ broad; calyx 2‴ diam., white.—HAB. Jamaica!, *Sw.*, in high mountains, [Haiti].

14. **N. leucantha,** *Ns.!* Branchlets purple, glabrate; *leaves* subcoriaceous, lanceolate-oblong, oblong or ovate-oblong, acuminate (rarely blunt), early *glabrous,* polished, and usually opaque above: *primary veins rusty-coloured,* 8–5 on each side of the midrib, often impressed above, prominent beneath, secondary delicate; panicles corymbiform, divaricate-spreading, puberulous: pedicels as long as the flower; *calyx-segments oval,* subtomentose inside; anthers roundish, equal, subsessile, 3 interior with a biglandular filament: sterile stamens obconical, eglandular; *cupule short, scutellate, spreading from the globose berry,* thrice exceeded by it.—*Sl. t.* 165. *Miq. Surin. t.* 59 *A.* 60.—Laurus Borbonia, *Sw. Fl. p.* 714. N. pallida, *Miq.!* (*non Ns.*). N. Pisi, *Miq.*—A middle-sized tree; leaves often rusty, 9″–4″ long, 3″–1″ broad; calyx whitish; anthers thickish; cupule distinct from the thickish pedicel, 1½‴–2‴ high, at length nearly flat, 4‴ diam.; berry exactly globose, 5‴ diam., dark-blue.

α. Calyx 4‴ diam.; leaf-ribs 8–6 (–5).

β. Rodiaei, Schomb.! Calyx 2‴–3‴ diam.; leaf-ribs 5– (6).—*Miq. l. c. t.* 58.—The fruit of *β* is still unknown.

HAB. Jamaica!, all coll., common in the lower hills (*α*); Dominica!, *Imr.* (*β*); Trinidad!, *Cr.* (*β*); [Haiti to Guiana!, Brazil!].

15. **N. discolor,** *Ns.* Branchlets and panicles rusty-tomentose; *leaves* subcoriaceous, large, oblong, acuminate, glabrescent and *polished above, rusty-pubescent* chiefly on the ribs *beneath: primary veins* 9–10 on each side of the midrib, impressed above, strongly prominent beneath, secondary less prominulous, transverse; *calyx-segments ovate-oblong,* blunt; anthers subsessile, equal, 6 exterior roundish, 3 interior obovate: "sterile stamens ovate-lanceolate:" *cupule globose-urceolate,* appressed: berry (immature) globose, included. —Ocotea, *Kth.*—Habit of *N. villosa,* Ns.!, but ribs less numerous. Leaves rusty-coloured, 10″–6″ long, 3″–2″ (–1½″) broad; calyx 4‴, cupule 5‴ diam.—HAB. Dominica!, *Imr.;* [New Granada].

16. **N. mollis,** *Ns.* Branchlets and panicles rusty-tomentose; *leaves* coriaceous, elliptical-oblong or elliptical, pointed, glabrate and shining above, *rusty-pubescent beneath:* primary veins 9–12 on each side of the midrib, strongly prominent beneath, secondary arcuate-transverse, *tertiary network slightly prominulous on both sides; calyx-segments ovate-roundish;* anthers roundish, 6 exterior with a short, 3 interior with a biglandular filament: sterile stamens obsolete; cupule . . . .—Ocotea, *Kth.*—Allied to the preceding and to *N. rigida,* Ns., from both of which it differs by the minute network of the veins prominulous above. Leaves rusty, 7″–5″ long, 3″–1″ broad; calyx 2‴ diam., pubescent.—HAB. Trinidad!, *Cr.;* [Mexico to Brazil].

Sect. 2. MACRANDRA.—*Anthers ovate-oblong, much exceeding the calyx-tube; cells of the 6 exterior in superimposed pairs.*

17. **N. staminea,** *Gr.* (*n. sp.*). Branchlets grey, glabrescent; *leaves* subcoriaceous, oblong, bluntish, *glabrous, reticulated-veiny:* network angular, prominulous on both sides, stronger beneath; panicles puberulous, lax, spreading, peduncled, infraterminal: pedicels shorter than the flower; *calyx-segments* ovate-oblong, blunt, puberulous, *half as long again as the stamens;* anthers sessile, equal, puberulous, 3 interior biglandular: 3 interior sterile

stamens minute, subcylindrical, eglandular; cupule . . . .—A large tree; leaves 8″–5″ long, 3″–1½″ broad, pale rusty-green, opaque or somewhat shining; panicles small: branches distant, pyramidal: pedicels 1½‴ long; calyx 4‴ diam.: segments reflexed-spreading; stamens 1‴ exserted from the calyx-tube; 6 exterior anthers ovate-oblong: cells suprabasilar, superior pair distant from their bluntish top; 3 interior anthers oblong: cells placed above their 2 large, globose, dorsal-basilar glands, inferior pair extrorse, superior lateral, below their rounded summit; sterile stamens as long as the glands; ovary globose, tapering into the cylindrical style: stigma minute.—HAB. Jamaica!, *Pd.*, *M'Nab*, *Al.*, in the western and northern forests, in the interior districts of Westmoreland and S. Anns.

7. STRYCHNODAPHNE, *Ns.* (1833.)

Flowers diœcious. *Calyx* 6-partite, wholly persistent. *Fertile stamens* 9: anthers 4-celled: filaments distinct. *Berry* supported by the expanded or reflexed calyx.—Trees; leaves *alternate, archnerved;* flower-fascicles *paniculate.*

This genus was afterwards named *Ocotea* by Nees: *Ocotea guianensis*, Aubl., however, being an *Oreodaphne*, that name would, if restored, belong to the latter genus, but is better altogether suppressed, as Aublet obscured it by a misplaced fruit, and later authors used this name for various unallied *Laurineæ.*

18. **S. floribunda,** *Gr.* Branchlets glabrous; leaves chartaceous, elliptical-lanceolate or elliptical, bluntish, glabrous, polished above, reticulated-veiny beneath; flowers cernuous, in compound racemes (often monstrous); stigma peltate; *berry globose, supported by the reflexed calyx.*—Laurus, *Sw.!* Nectandra, *Ns.*—A tree or shrub; leaves dark-green, 3″–6″ long, ¾″–2″ broad, usually tapering at both ends; panicles equalling the leaves, slightly puberulous: pedicels as long as the flower; ♀ calyx 3‴ diam., with all the stamens developed, but devoid of anther-valves: segments broadly ovate, expanded: anthers 9, globose, 4-celled, 4-porose, as long as the filaments: interior filaments with 2 large, globose, basilar glands: sterile stamens wanting; ovary as long as the oblique style: stigma large; monstrous flowers larger, connivent: all stamens transformed into sepaline scales; berry 3‴ diam.: calyx spreading from its base, enlarged: reflexed lobes 1‴ diam., rounded, as long as the tube.—HAB. Jamaica!, *Sw.*, *Pd.*, *Al.*, *March*, in woods, S. Anns, Manchester.

8. OREODAPHNE, *Ns. emend.*

(Ocotea, *Aubl.*)

Flowers usually diœcious: stamens in ♀, pistil in ♂ less developed. *Calyx* 6-fid: tube turbinate: limb deciduous. *Fertile stamens* 9: anthers 4-celled: cells one above the other in pairs: filaments distinct. *Berry* supported by a truncate cupule.—Leaves *alternate, archnerved;* flower-fascicles *paniculate.*

19. **O. Leucoxylon,** *Gr.* Glabrous, powdery-puberulous towards the summit; *leaves* chartaceous, oblong or elliptical, usually acuminate, bluntish, *polished* (or slightly reticulated) *above*, with the primary veins slightly costate, and a lax, delicate network beneath; panicles powdery-puberulous, glabrescent, subcontracted, or spreading at the base: *pedicels as long as the flower, spreading;* calyx-lobes ovate or oblong, blunt; anthers quadrate: filaments short, 3 interior biglandular: sterile stamens in ♂ 0; stigma large; *cupule scutellate*, slightly concave, *one-fifth as long as the ovoid-globose*, mucronate *berry, distinct from the warty*, thickened *pedicel.*—Laurus, *Sw.!* Phœbe membranacea, *Macf.!* (*non Ns.*).—A middle-sized tree: branchlets angular, dark- at length pale-coloured; leaves variable, usually opaque, 10″–3″ long, 3″–1½″ broad; panicles exceeded by the leaves, black in drying; flowers "yellow, fragrant;" calyx 2‴ diam.; berry 5‴ long, 4‴ broad, black and somewhat shining in drying: cupule 1‴ high, 2‴ diam.: warts of the pedicel grey.—HAB. Jamaica!, *Sw.*, *Al.*, *Bancr.*, *Wils.*, *March*, in mountain woods; [Cuba!, Portorico, Guiana!, Brazil].

20. **O. parviflora,** *Ns.* (*non Gr. Pl. Carib.*). Glabrous; *leaves* chartaceous, oblong, bluntish, *polished above*, with the primary veins costate, and a lax, delicate network beneath; panicles powdery-glabrescent, spreading: *pedicels longer than the flower, spreading;* calyx-lobes roundish; anthers quadrate-oblong: filaments short, 3 interior biglandular: sterile stamens in ♂ 0; stigma minutely peltate; *cupule scutellate*, slightly concave, *tapering into the* clavate, rugulose *pedicel: warts none:* berry . . . .—Allied to the preceding, but

flowers smaller (1‴ diam.): and still more similar to *O. strumosa*, Gr. (*O. coriacea*, Pl. Carib.), of Guadeloupe, which is remarkable by its exactly globose fruit constricted between the berry and cupule: its flowers are unknown, but the leaves do not quite agree with *O. parviflora*. Leaves 6″–8″ long, 2″ broad: primary veins 7–10 on each side of the midrib, nearly equidistant: in *O. strumosa* there are 4–6 veins, and the superior more distant.—HAB. Jamaica!, *Sw.*, in mountain woods: not named in Swartz's collection.

21. **O. cernua,** *Ns.* Glabrous; *leaves* chartaceous, oblong, oblong-lanceolate or elliptical-oblong, *reticulated-veiny:* primary veins and *network prominulous on both sides;* panicles perfectly glabrous, spreading, lax: *pedicels longer than the flower, cernuous* before anthesis; *calyx glabrous* outside: lobes oblong, blunt; anthers quadrate, oblong: filaments short, 3 interior biglandular: sterile stamens in ♂ 0; stigma minutely peltate; *cupule cupuliform, one-third to one-fourth as long as the ovoid-oblong berry,* distinct from the smooth, thickened pedicel.—Laurus martinicensis, *Sieb. Mart.* 79 (*non Jacq.*). L. exaltata, *Sieb. Mart.!* (*non Sw.*). O. marowynensis, *Miq.!*—Easily distinguished from the glabrous panicles, black in drying, with yellow anther-valves, the cernuous pedicels and reticulated leaves.—A middle- or small-sized timber-tree; leaves 9″–3″ long, 3½″–1″ broad; calyx infundibular, powdery inside, 1‴ diam.; cupule 4‴ broad, 4‴ high, 2½‴–3‴ deep: border thick: berry 8‴–10‴ long, 6‴ diam., purple.—HAB. Dominica!, *Imr.*, uncommon; [Guadeloupe!, Guiana!, equatorial Brazil!].

22. **O. coriacea,** *Ns.* (*exclus. syn. Sw.*). Branchlets and spreading panicles strigillose-puberulous; *leaves* rigid, chartaceous, elliptical or obovate, usually rounded at the top, *reticulated-veiny,* glabrous, usually bearded beneath in the vein-axils: costate veins and *network prominulous on both sides; pedicels longer than the flowers, spreading; calyx puberulous:* lobes roundish; stigma minute; *cupule cupuliform, one-fifth as long as the ovoid-oblong or oblong berry,* distinct from the rugulose, thickened pedicel.—A lofty timber-tree; leaves 8″–4″ long, 3″–2″ broad; calyx 1‴ diam.; cupule 4‴ diam., 2‴ high: margin thin, appressed: berry 10‴–12‴ long, 6‴ diam.—HAB. Dominica!, *Imr.*, in mountain woods; [Portorico, Guadeloupe].

9. AYDENDRON, *Ns. and Mart.* (1833.)

(Gœppertia, *Ns.* 1836.)

Calyx-limb 6-partite, tardily deciduous, spreading from the persistent tube. *Fertile stamens* 9: anthers 2-celled. *Berry* supported by a truncate cupule.—Leaves *alternate;* flower-fascicles *paniculate.*

23. **A. citrifolium,** *Ns.* Branchlets glabrate; *leaves* chartaceous, oblong, bluntish or bluntly pointleted, glabrous, *polished on both sides:* veins delicate, not prominulous: petiole channelled, subdecurrent; panicles fascicled, strigillose-puberulous, much exceeded by the leaf: pedicels slender; flowers hermaphrodite; *calyx-tube* minute, *much shorter than the* roundish *segments;* 6 exterior anthers roundish, strigillose below the cells, 3 interior stamens biglandular, sterile obsolete; berry . . . .—A tree; leaves 6″–4″ long, 2″–1½″ broad: petiole 5‴–6‴ long; panicles 2″–3″, pedicels 1½‴ long; calyx scarcely 1‴ diam.; stigma minute.—HAB. Trinidad!, *Cr.*, at S. Anns; [equat. Brazil!].

24. **A. bracteatum,** *Ns.* Branchlets tomentose, glabrescent; *leaves* rigid, coriaceous, elliptical-oblong or elliptical, glabrous: *primary veins* costate, 7–11 on each side of the midrib, *prominulous beneath,* secondary delicate; panicles short, corymbiform, peduncled, exceeded by the leaves: peduncle strigillose-pubescent; *bracts large,* subpersistent, tomentose; "flowers hermaphrodite; calyx-tube globose: segments rounded; cupule half as long as the ovoid berry."—Leaves 6″–3″ long, 3″–1½″ broad; peduncles 3″ long.—HAB. S. Vincent (*Ns.*); [Guadeloupe!, *Forström in Hb. Sw.*].

25. **A. sericeum,** *Gr.* Branchlets and panicles sericeous; *leaves* rigid, chartaceous, elliptical-oblong or ovate-oblong, with a bluntish point, subacute at the base, glabrescent above, *silvery-subsericeous and shining beneath: principal veins* 4 *on each side of the midrib,* unequally distant, costate, prominent beneath: veinlets reticulated, prominulous beneath; panicles peduncled, often as long as the leaf: pedicels short, clavate; flowers diœcious; *calyx-tube turbinate, shorter than the oval lobes;* 6 exterior anthers roundish, with oval valves, 3 interior stamens biglandular, sterile 3; berry . . . .—Endlicheria, *Ns.* Gœp-

pertia, *Ns.!*—A tree; leaves pale, 12″–4″ long, 3½″–2″ broad: petiole 10‴–5‴ long, thickish, flat above; pedicels spreading, 1‴ long; calyx 1½‴ diam.—HAB. Dominica!, *Imr.*, in the mountains, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* Trinidad (*Sieb.*).

26. **A. argenteum,** *Gr.* Branchlets and panicles powdery-sericeous; *leaves* rigid, chartaceous, lanceolate-oblong or oblong, pointed or bluntish, rounded at the tapering base, glaucous and glabrous above, *shining-silvery and early glabrate beneath: principal veins* 12–20 *on each side of the midrib*, equidistant, costate, immersed above, prominent with their sinuate arch beneath: veinlets reticulated, slightly prominulous beneath: petiole thick, powdery-tomentose; panicles peduncled, ♂ half as long as the leaf, ♀ shorter: pedicels short, clavate; flowers diœcious; *calyx-tube turbinate-campanulate, as long as the roundish lobes;* anthers obovate-roundish, pubescent below the roundish, terminal valves: 3 interior stamens biglandular, sterile 0; cupule truncate, half as long as the oval berry.—Oreodaphne parviflora, *Pl. Carib.* (*non Ns.*).—A high tree; leaves pale, 16″–6″ long, 5″–1″ broad: petiole 3‴–5‴ long, half-cylindrical; pedicels spreading, ⅔‴ long: bracts deciduous; calyx 1‴ diam.; cupule cupuliform, verrucose, appressed with a thin, subrepand margin, distinct from the pedicel, 4‴ high, 5‴ broad; berry 8‴ long.—HAB. Dominica!, *Imr.;* [Guadeloupe!, in the mountains].

10. CASSYTA, *L.*

Calyx 6-fid, wholly persistent: tube at length baccate: exterior lobes shorter. *Fertile stamens* 9: anthers 2-celled. *Nut* included within the pervious calyx-tube.—Aphyllous, herbaceous climbers, *adhering by means of papillæ;* flowers *in small spikes.*

27. **C. americana,** *Ns.* Glabrous; spikes simple, peduncled: flowers distant, white; exterior stamens clavate.—*Jacq. Amer. Pict. t.* 116.—C. filiformis, *Jacq.*—Stems cordlike, 30′–40′ long, running along savannah-grasses and shrubs; flowers 1‴, globose berries 3‴ diam.—HAB. Jamaica!, *Pd., March;* Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Pd., Cr.:* a slender form in savannahs; [Mexico! to Brazil!].

11. HERNANDIA, *L.*

Flowers ternate, central sessile ♀, lateral pedicellate, ♂. *Calyx* biseriate, ♂ 6-partite, 3-androus: filaments biglandular; ♀ supported by a cupuliform involucel, salver-shaped: limb 8-partite. *Drupe* 8-costate, included within the bladder-like, inflated-globose, pervious calyx-tube.—Trees; leaves *alternate;* cymes *supported by a 4-leaved involucre, corymbose.*

1. **H. sonora,** *L.* Leaves ovate, pointed, rounded beyond the peltate base, about as long as the petiole.—*Desc. Fl.* 2. *t.* 143.—Leaves 6″ long; "flowers 3‴ diam.; bladder 1½″ diam., yellow, twice as long as the drupe, with a terminal, roundish opening."—HAB. S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 84; [East Indies!, Pacific islands!].

Laurus Chloroxylon, L. (Sl. t. 197. f. 1; Br. Jam. t. 7. f. 1), a valuable timber-tree in Jamaica!, *Al., March*, from the quoted figures is no *Laurinea.* Upon Nees's authority it belongs to the *Celastrineæ* (*Ceanothus Chloroxylon*, Ns.), but was omitted in that Order as a doubtful plant. My specimens are mere leaf-branches, which from their 3-nerved leaves had been compared with *Cinnamomum*, though they are alternate and stipulate.

LXXVI. GARRYACEÆ.

Flowers apetalous, unisexual. *Stamens* alternate to 4 calyx-divisions. *Ovary* inferior, simple: ovules 2, hanging from its top: stigmas 2, distinct, sessile. *Pericarp* baccate. *Embryo* small, cylindrical, included in the top of a large albumen.—Shrubs; leaves *opposite, exstipulate, entire, evergreen.*

1. FADYENIA, *Endl.*

♂: *Sepals* cohering above. *Stamens* 4: anthers large, oblong-linear. ♀: *Calyx-limb* abortive. *Stigmas* reflexed. *Berry* 1-seeded by abortion.—Flowers *in aments, opposite, single in the bracts.*

1. **F. Hookeri,** *Endl.* Diœcious; leaves oblong or lanceolate, mucronate-bluntish, quite entire, tapering into the petiole, shining above, lurid-villous or glabrate beneath; aments elongated with distant flower-pairs: ♂ axillary, branched, cernuous, ♀ erect, terminal on small branchlets; bracts connate at the base, exceeding the flower; berry globose.—*Hook. Ic. t.* 333.—Garrya Fadyenii, *Hook.!*—Leaves black in drying, 4″–1½″ long, 1½″–6‴ broad: veins in a lax network, prominulous above; aments hoary-villous, 1″–2″ long, or at length longer in ♀; ♂ calyx globose, 1½‴ diam.; berry 3‴ diam., crowned with the subulate, spreading stigmas.—Hab. Jamaica!, *Macf., Hartw., Pd., M'Nab, March,* in mountain woods, common in the Blue Mountains, Port Royal; [Sierra Maestra in Cuba!].

LXXVII. CUCURBITACEÆ.

Flowers usually unisexual. *Stamens* 5, or less by abortion, inserted into the calyx or the sympetalous corolla, often triadelphous: anthers large, extrorse (or marginal), usually flexuose. *Pistil* paracarpous: ovary inferior, mostly 3-celled by the involute placentas: placentas 3, usually many-ovulate: stigmas distinct. *Fruit* pulpy. *Seeds* exalbuminous.—Succulent, herbaceous vines, *scandent by tendrils;* leaves *palmatinerved, exstipulate.*

Many *Cucurbitaceæ* are cultivated, the mucilaginous berry being often eatable. Thus, in the West Indies, the Musk Melon (*Cucumis Melo*), the Cucumber (*C. sativus*), the Water Melon (*Citrullus vulgaris*), the Bottle Gourd (*Lagenaria vulgaris*), the Pumpkin or White Gourd (*Cucurbita Pepo,* forms of which are the Squash and the Succade Gourd), the Pompion (*C. maxima*), the Torchon (*Luffa, sp. sec.* Cr.), the East Indian Okra (*Luffa acutangula*), the Cerasee (*Momordica Balsamina* and *Charantia*), the Chocho (*Sechium edule*), the Viper-snake Gourd (*Trichosanthes colubrina*). Several species are used in medicine for a drastic principle, peculiar to their sap, *e.g.* the Sequa-seed, or Cocoon antidote (*Feuillea cordifolia*). Shells of the Towel Gourd, or Strainer Vine (*Luffa acutangula*), the Bottle Gourd, and others, are used for domestic purposes.

Tribe I. *CUCURBITEÆ.—Tendrils juxtapetiolar* (i.e. *transformed from a single abortive leaf.*)

1. SECHIUM, *P. Br.*

Corolla rotate: tube bearing 10 nectariferous glands. *Stamens* monadelphous: anthers distinct: cells bent upwards and downwards. *Ovary* unilocular: ovule single, pendulous. *Fruit* large, indehiscent.—Flowers *monœcious.*

1. **S. edule,** *Sw.* Leaves cordate-5-angular, pointed; tendrils 3(–5-fid); ♂ racemes axillary, with a single ♀ flower from the same axil; fruit obovate-oblong, glabrous, usually muricate, with 5 longitudinal furrows.—*Jacq. Amer. Pict. t.* 245.—Chayota, *Jacq.* Sicyos, *Jacq.*—Root large, fleshy; stem smooth; leaves scabrous; flowers yellow, ♂ 3‴, ♀ 5‴–6‴ diam.; fruit about 4″ long: "seed half-exserted during germination."—Hab. Jamaica!, *Dist.,* in thickets; [Cuba; cultivated in all the West Indian islands].

2. CIONANDRA, *Gr.*

♂: *Calyx* 5-dentate. *Corolla* rotate. *Stamens* triadelphous: anthers all connate in a cylindrical column: cells bent upwards and downwards. *Ovary* 3-celled, constricted below the calyx-limb: cells 2-ovulate. *Berry* indehiscent.—Flowers *monœcious, in axillary racemes or single.*

This genus, comprising, besides *Bryonia glandulosa,* Pœpp. Endl. (N. Gen. t. 175), and several species roughly figured in the Fl. Fluminensis (10. t. 85, 87, 88, 89), is distinguished from *Bryonia* by its synantherous male flowers, and approaches *Cephalandra,* which is said to have polyspermous fruits. *Momordica macropoda,* Pœpp. Endl. (l. c. t. 173), is also closely allied in habit, but will prove a distinct genus, presenting filaments cohering below the top, and a polyspermous, 3-valved fruit.

2. **C. racemosa,** *Gr.* *Leaves* puberulous, *roundish,* protracted at the base, mucronate, inferior 3(–5)-lobed to the middle, superior sinuate-subentire; tendrils 2–3-fid; flowers

racemose, distant, pendulous; ♂ calyx-teeth deltoid, distant: *petals ovate-oblong, as long as the calyx,* tomentose: 3 filaments short; ♀ calyx-limb cyathiform, minutely denticulate, twice as long as the stipitiform stricture, half as long as the oblong petals; *berry ovoid-oblong.—Plum. Descr. t.* 97; *Desc. Fl.* 2. *t.* 136.—Bryonia, *Sw.* B. americana, *Desc.* (*non Lam.*).—Stem glabrescent, angular; leaves 3″–2″ diam., uppermost often narrow, subhastate; flowers yellowish, ♀ 6‴ long (the ovary included); petals 2‴–3‴ long; berry red, 5‴ long, 3‴ broad.—HAB. Jamaica!, all coll., common; Trinidad!, *Cr.;* [Haiti to Brazil!].

3. **C. graciliflora,** *Gr. Leaves* glabrescent, scabrous, *cordate, deeply 3-lobed:* lobes acuminate, middle ovate-lanceolate, quite entire, lateral angular-sinuate on the exterior side; tendrils 3-fid; flowers in few-flowered racemes or solitary; ♂ calyx-teeth subulate-filiform, distant: *petals linear-oblong, twice as long as the calyx,* tomentose: 3 filaments distinct, filiform; *berry ovoid.*—Bryonia racemosa, *Macf. partim, Pl. Carib.*—Stem glabrous, angular; leaves 5″–2″ diam.: basilar sinus open; ♂ flowers 9‴–12‴ long; petals 6‴–9‴ long, 1½‴ broad, suberect, not exceeding the anther-column; filaments long: anther-column 2‴ long; berry yellowish, 8‴ long, 6‴ broad: seeds 6 or fewer, ovate, compressed, rugulose, obtuse on the margin, 4‴ long.—HAB. Antigua!, *Wullschl.;* [Cuba!, Guadeloupe!].

4. **C. cuspidata,** *Gr.* (*n. sp.*). Glabrous; *leaves 3-lobed to one-third,* slightly subcordate at the base: lobes deltoid, pointleted, denticulate, lateral spreading: tendrils bifid or simple; ♂ flowers solitary (or in few-flowered racemes): calyx-teeth deltoid, small: tube turbinate: *petals broadly oblong, half as long again as the calyx,* slightly tomentose: 3 filaments short.—Stem smooth, angular; leaves 3″ diam. (or the uppermost narrower, subentire), membranaceous, slightly scabrous or smooth, 3-nerved with transverse veins: teeth glanduliform; ♂ flowers expanded, 10‴ diam., ♀ unknown; calyx 3‴ long and as broad at the top; petals 4‴–5‴ long, 2‴ broad, blunt; anther-column shortly exserted.—HAB. Dominica!, *Imr.*

3. MOMORDICA, *L.*

♂ *Calyx* 5-fid. *Corolla* nearly 5-petalous. *Stamens* triadelphous: anthers all connate: cells bent upwards and downwards. *Ovary* 3-celled: ovules ∞, uniseriate in each cell. *Fruit* elastically 3-valved.—Peduncles *axillary, simple, bracteate:* flowers *monœcious in the West Indian species.*

5. **M. Charantia,** *L.* Glabrescent; leaves deeply 7–5-lobed: lobes sinuate-serrate; tendrils simple, hispidulous; *peduncles bearing a roundish, entire bract above the base* (or about the middle); ♂ calyx-lobes ovate-lanceolate, longer than the tube, exceeded by the corolla; ♀ calyx constricted into a stalk above the crested-tubercled ovary; fruit oblong or elliptical.—Variable in the size of the corolla and fruit, in the muricated or tubercled covering of the latter, and in the form of the leaf-lobes. Peduncles 2″–3″, corolla 4‴–6‴, fruit 1″–5″ long.

α. Leaf-lobes pointed; bracts in both sexes inserted less than 1″ above the base of the slender peduncles; fruit oblong, tapering above.—*Mill. Ic. t.* 171; *Rheed. Mal.* 8. *t.* 9.

β. pseudobalsamina. Leaf-lobes dilated; bracts as in *α*; fruit ellipsoidal, usually small.—*Desc. Fl.* 8. *t.* 594; *Wight Ic.* 2. *t.* 504.—Momordica operculata, *L. ex Commel. Pl. Rar. t.* 22: agreeing with a Guadeloupe specimen.

γ. muricata, W. Leaf-lobes dilated: teeth bluntish; bracts of ♂ inserted about the middle, of ♀ above the base of the peduncles; corolla-segments obovate; fruit ellipsoidal-oblong, usually large.—*Rheed. Mal.* 8. *t.* 10; *Bot. Mag. t.* 2455.

HAB. Jamaica!, *Dist., Wullschl.* (*α*), on fences; Antigua!, *Wullschl.* (*β, γ*), Dominica!, *Imr.* (*γ*); [Haiti!, Martinique!, *Sieb. Mart.* 225; Mexico! to Brazil!; trop. Africa!, East Indies!].

6*. **M. Balsamina,** *L.* Glabrescent; leaves deeply 5-lobed: lobes dilated, sinuate-dentate with cuspidate teeth; tendrils simple; *peduncles bearing a cordate, denticulate bract close to the flower;* ♂ calyx-lobes ovate-lanceolate, longer than the tube, half as long as the corolla; fruit ellipsoidal, crested-tubercled.—Peduncles of ♂ 1½″–2″ long, of ♀ shorter; corolla 8‴–6‴, fruit 2″ long.—HAB. Naturalized in Jamaica (*Macf., Wils.*); [trop. Africa! to the Cape!, trop. Arabia! and East Indies!].

4. CIONOSICYS, *Gr.*

Calyx 5-fid: ♂ tube turbinate, ♀ cupuliform. *Corolla* deeply 5-lobed, infundibular-rotate. *Stamens* triadelphous (–5): 3 (–5) filaments distinct, inserted into the corolla-base: anthers all connate in a cylindrical column, which is shortly exceeded by 5 connectival lobes: cells bent upwards and downwards, with 3 parallel anfractuosities. *Ovary* 3-celled: cells many-ovulate. *Stigma* enlarged: lobes 3, roundish, foliaceous, reflexed. *Fruit* large, indehiscent.—A high, glabrescent, monœcious climber; leaves 3-*fid (or entire)*; tendrils *simple*; flowers *single, axillary, greenish-white, large.*

7. **C. pomiformis,** *Gr.*—Trichosanthes, *Macf.* (*exclus. syn.* T. amaræ, *L.*)—Stem slender, angular, glabrous; leaves membranaceous, early glabrous, 4″–2″ diam., slightly cordate at the base, roundish (or ovate, if entire), pointed, 3-fid to one-third, with the lateral lobes spreading, deltoid, remotely and minutely denticulate; peduncles ebracteate, ♂ 2″ long, ♀ shorter; ♂ calyx 8‴ long, puberulous: tube half as long as the lobes, at length enlarged: lobes spreading, ovate-lanceolate, at length distant, separated by a truncate, slightly toothed sinus; ♀ calyx-tube 5‴ high, 6‴–8‴ broad at the top, twice as long as the lanceolate, distant lobes, half as long as the style; corolla $1\frac{1}{2}$″ long, papillose outside, downy with scattered, thickish hairs inside: lobes ovate-oblong, entire, 3–4 times as long as the tube; filaments hairy, half as long as the corolla: anther-column 4‴ long, $2\frac{1}{2}$‴ diam.; style enlarged at the top: stigma 5‴–6‴ diam., green, glabrescent; fruit ovoid, glabrous, yellowish, "size of an orange: cells 9-seeded."—Hab. Jamaica!, *Dist.*, *Al.*, *Wils.*, *Wullschl.*, suspended from trees in the mountains, along roads, S. Anns, Manchester.

5. CUCUMIS, *L.*

Calyx 5-fid. *Corolla* 5-partite. *Stamens* triadelphous: 3 filaments distinct: anthers connivent, distinct (or "slightly combined"), exceeded by connectival lobes: anther-cells bent upwards and downwards. *Ovary* 3-celled: cells many-ovulate. *Fruit* indehiscent.—Tendrils *simple*; flowers *yellow, monœcious, ♂ single or fascicled in the axils, ♀ solitary.*

8. **C. Anguria,** *L.* Annual, hirsute; leaves deeply 5(–3–7)-lobed: lobes obovate or spathulate, blunt, denticulate, 3 larger separated by a rounded sinus; ♀ peduncles slender; *fruit* ovoid, *muricated with rigid spinules.—Mill. f.* 33; *Desc. Fl.* 5. *t.* 326.—Flowers small.—Hab. Jamaica (*Macf.*), common in dry pastures; Antigua!, *Wullschl.*; [Guadeloupe!; Key West to Bahia].

6. LUFFA, *Cav.*

Calyx 5-fid: ♂ tube shortly campanulate, ♀ clavate. *Corolla* deeply 5-partite. *Stamens* 5–tri–diadelphous: anthers distinct: cells flexuose, on the margin of a sinuate connective. *Pistil* of *Cucumis.* *Fruit* usually opening by a terminal lid.—Flowers *yellow, usually monœcious, ♂ in a lax, terminal raceme, ♀ solitary.*

9. **L. acutangula,** *Roxb.* Stem glabrous, angular; leaves cordate-roundish, 5-lobed to one-third, pointed, scabrous or glabrescent; tendrils 3-fid (or simple); *stamens* 5; *fruit* oblong, 10-*angular*, smooth: *lid small or obsolete.—Jacq. Fl. Vind.* 3. *t.* 74. *Rheed. Mal.* 8. *t.* 7.—Cucumis, *L.*—Variable in the size of the flowers ($1\frac{1}{2}$″–4″ diam.). Fruit size of the cucumber, at length having a frame-work of reticulated fibres: lid "not separating spontaneously."—Hab. Jamaica!, *Dist.*, *March*, on fences; Antigua!, *Wullschl.*; [Cuba to Brazil!; East Indies to Afghanistan!].

7. LAGENARIA, *Ser.*

Calyx campanulate, shortly 5-fid or 5-dentate. *Petals* 5. *Stamens* triadelphous: anthers of *Luffa.* *Ovary* of *Cucumis.* *Stigma* subsessile. *Fruit* indehiscent.—Flowers *white, monœcious, long-peduncled.*

10. **L. vulgaris,** *Ser.* Softly pubescent; leaves cordate-roundish, subentire, denticulate, biglandular at the base; tendrils divided; petals obovate, expanded; fruit glabrate, smooth. —*Rheed. Mal.* 8. *t.* 1, 4, 5.—Cucurbita Lagenaria, *L.*—Corolla 2″ diam.; fruit variable in shape, sometimes 6′ long.—Hab. Jamaica (*Macf.*), on fences; Antigua!, *Wullschl.*, in waste places; [all tropical countries, and naturalized in the southern United States].

8. MELOTHRIA, *L.*

Calyx 5-dentate. *Corolla* 5-partite. *Stamens* triadelphous (–"5"), inserted into the calyx-tube: anthers 3, subsessile, oblong: cells straight, on the margin of an entire connective. *Ovary* 3-celled, constricted below the calyx-limb: cells many-ovulate. *Berry* indehiscent: seeds compressed.—Flowers *monœcious,* ♀ *solitary.*

11. **M. pervaga,** *Gr.* Glabrescent; leaves membranaceous, cordate with a deep, open sinus, pointed, sinuate-repand or 3–5-lobed; tendrils simple; ♂ flowers in small racemes: calyx-tube as long as the corolla: teeth minute; corolla-segments emarginate in ♂, entire in ♀; stigmas bifid; berry ovoid (6‴–8‴ long), "purple."—*Plum. Ed. Burm. t.* 66. *f.* 2. *Sl. t.* 142. *f.* 1.—Landersia, *Macf.* M. pendula, *Sw.*, *L. ex parte.*—Root fibrous; leaves variable, often resembling those of Ivy, 1″–2″ diam., slightly scabrous with white points or glabrate; corolla yellow, 2‴–3‴ diam., seeds with a sericeous down.—Hab. Jamaica!, all coll., common; S. Kitts!, Antigua!, *Wullschl.*; Dominica!, *Imr.*; S. Vincent!, *Guild.*; [Cuba!, Mexico! to Venezuela! and New Granada!].

9. CERATOSANTHES, *Juss.*

Calyx clavate. *Petals* 5, bifid, with laterally incurved lobes. *Stamens* of *Melothria. Ovary* "4-celled, constricted below the calyx-limb: cells many-ovulate." *Fruit* indehiscent: seeds subglobose.—A slender, glabrescent vine, *with a large tuber; habit of* Melothria.

12. **C tuberosa,** *Spreng.*—*Plum. Ed. Burm. t.* 24. *Desc. Fl.* 8. *t.* 538. *Bot. Mag. t.* 2703.—Trichosanthes, *W.* T. corniculata, *Lam.*—Tuber several inches diam.; stem glabrous; leaves membranaceous, 3–5-lobed, 3″–1″ diam., scabrous or glabrescent: lobes ovate, pointed, subentire; tendrils simple; ♂ flowers in peduncled racemes or corymbs: petals whitish, 4‴ long, with acuminate lobes.—Hab. Grenada!, *Wullschl.*; [Martinique, Venezuela!].

10. ANGURIA, *L.*

Calyx tubular-campanulate. *Petals* 5. *Stamens* diadelphous, inserted into the base of calyx-tube: anthers 2, subsessile, oblong: cells straight, marginal. *Ovary* 2-celled: cells many-ovulate. *Fruit* indehiscent.—Tendrils *simple;* flowers *usually red, diœcious.*

13. **A. umbrosa,** *Kth.* Glabrescent; *leaves deeply pedati-*5*-lobed* to seven-eighths, cordate at the base with a broad sinus: lobes subentire, 3 middle oblong, mucronate, exterior semiovate; ♂ flowers in short racemes: peduncles as long as the leaves: pedicels ebracteate, as long as the calyx; calyx-tube green, longer than the oval, red petals: teeth minute, recurved.—Root tuberose; leaves 5″–6″ diam.; ♂ calyx-tube 7‴–8‴, teeth 1‴, petals 5‴–6‴ long.—Hab. Trinidad!, *Pd.*, common in waste places; [Venezuela].

Tribe II. *NHANDIROBEÆ.—Tendrils axillary* (i. e. *formed of abortive branches*).

11. FEUILLEA, *L.*

♂: *Calyx* 5-lobed. *Corolla* rotate. *Stamens* central, 5 fertile (alternating with 5 sterile filaments): anther-cells marginal. "*Ovary* 3-celled: cells many-ovulate. *Fruit* indehiscent."—Glabrous vines; flowers *diœcious,* ♂ *fascicled in long, branched racemes,* ♀ "*solitary.*"

14. **F. cordifolia,** *Sw.* Leaves subcordate-roundish, angular-3–5-lobed or entire, eglandular; corolla-segments rounded.—*Desc. Fl.* 3. *t.* 198.—A high climber; leaves 3″–4″ diam.; ♂ flowers orange, 6‴ diam.; fruit "globose, 2″ diam."—Hab. Jamaica!, *Macf.*, *Al.*, *Pd.*, common in shady woods.

LXXVIII. PAPAYACEÆ.

Flowers unisexual. *Corolla* hypogynous, sympetalous in ♂. *Stamens* 10, inserted into the corolla. *Pistil* paracarpous: placentas 5, many-ovulate: stigmas distinct. *Fruit* pulpy.

Embryo in the axis of albumen.—Milky trees; stems *usually simple;* leaves *palmatinerved, exstipulate.*

The milky juice of the Papaw (*Carica Papaya*) has the property of rendering meat tender. Its eatable fruit contains fibrine.

1. CARICA, *L.*

Calyx minute, 5-dentate. *Corolla* of ♂ infundibular, in ♀ formed of distinct, valvate petals. *Stamens* biseriate, inserted into the throat of the corolla. *Ovary* unilocular.—Leaves *large;* flowers *usually diœcious, in corymbs.*

1. **C. Papaya,** *L.* Unarmed, diœcious; stem simple; leaves deeply 7-lobed, glabrous: lobes pinnatifid, pointed; *corymbs axillary,* ♂ in interrupted panicles; *fruit* large, *obovoid.*—*Tuss. Fl.* 3. *t.* 10, 11. *Desc. Fl.* 1. *t.* 47, 48.—10′–20′ high; leaves often 2′ diam.; ♂ flowers 1″ long; fruit yellow, 6″ long.—Hab. Jamaica!, *Dist. Al.*, naturalized and wild (*P. Br.*); Antigua!, *Wullschl.;* [Venezuela!, cultivated in all tropical countries].

2. **C. cauliflora,** *Jacq.* "Unarmed, diœcious; leaves 5-lobed: larger lobes pinnatifid, pointed; *corymbs simple, proceeding from the bark* of the simple stem; *fruit ovate,* pointed."—*Jacq. Fl. Schœnbr.* 3. *t.* 311.—Hab. Trinidad (*Don*); [Venezuela].

3. **C. prosoposa,** *L.* (*ex syn. P. Br.*). "*Stem* low, *branched;* leaves palmatifid: lobes entire; *fruit globose.*"—*Lun. H. Jam. p.* 38.—"Stem 4′–5′ high; fruit size of a walnut (*Sl.*), 3″ diam. (*Lun.*)."—Hab. Jamaica (*Sl.*, *P. Br.*), common in the inland-woods.

LXXIX. PASSIFLOREÆ.

Petals inserted into the calyx-tube, or wanting. *Stamens* inserted into the gynophore or outside of a disc, opposite to the calyx-segments, rarely ∞. *Pistil* paracarpous: ovary superior, unilocular: placentas mostly many-ovulate: stigmas usually distinct. *Embryo* in the axis of albumen.—Leaves *mostly stipulate.*

The berry of some *Passifloræ* is eatable, but other species are said to possess narcotic properties, and are employed as medicinal plants.

1. PASSIFLORA, *L.*

(Murucuja, *Juss.*)

Calyx 5(–4)-partite or deeply lobed. tube furnished with a crown, which is usually composed of many filiform rays. *Stamens* 5(–4), inserted upon the upper part of the gynophore, (rarely hypogynous, if the gynophore is wanting). *Styles* and *placentas* 3. *Pericarp* baccate. *Seeds* scrobiculate.—The West Indian species are cirrhiferous, herbaceous, or shrubby vines, scandent by axillary tendrils.

Sect. 1. Cieca. *Calyx* 5-*partite: crown* 3(–2)-*seriate, exterior or both exterior ones filamentose. Corolla* 0.—Petioles biglandular: stipules linear-setaceous orminute; pedicels single or fascicled: joint distant from the flower: bracteoles at the joint minute or none; calyx rotate, yellowish-green: crown tinged with blue or red.

1. **P. minima,** *L.* Glabrescent; bark at length corky; *leaves roundish or ovate,* 3-*lobed or subentire:* lobes ovate-oblong: petiole biglandular above the middle: *glands stipitate,* urceolate; pedicels 1–2; calyx small, yellowish: segments twice as long as the crown; berry globose, 4 times as long as the carpophore.—*Jacq. H. Vind. t.* 20. *Cav. Diss.* 10. *t.* 266.—Annual; leaves (as in most species) variable, 2″–1″ diam.: petiolar glands either at the top of the petiole or 1‴–2‴ distant from it; joint 1‴–2‴ distant from the top of the pedicel; calyx 6‴–8‴, berry 5‴ diam.—Hab. Jamaica!, *Pd., Al.;* [Cuba!, Haiti, Curaçao].

2. **P. suberosa,** *L.* Glabrescent; bark corky; *leaves roundish or ovate,* 3-*lobed:* lobes ovate or oblong (rarely lanceolate): petiole biglandular above the middle: *glands subsessile;* pedicels 2–1; calyx yellowish: crown short; *berry ovoid,* nearly twice as long as the carpophore.—*Jacq. H. Vind. t.* 163. *Cav. Diss.* 10. *t.* 265.—Pedicels jointed 2‴ below their top; calyx variable in size, usually 12‴ diam. (or 6‴–16‴); berry 5‴–6‴ (–10‴) long, 3‴–5‴ broad.—Hab. Jamaica!, *Dist., Pd.*, common in crevices of rocky banks; Antigua!, *Wullschl.;* Dominica!, *Imr.;* [Panama!, Venezuela!].

3. **P. pallida,** *L.* Glabrous; *leaves ovate,* rounded-bluntish above, *entire:* petiole biglandular at the middle: *glands sessile;* pedicels 2; calyx yellowish: crown short; *berry ovoid,* nearly twice as long as the carpophore.—*Plum. Descr. t.* 89. *Desc. Fl.* 7. *t.* 460: bad.—Bark smooth, or slightly corky; leaves 2″–1½″ long; pedicels jointed at the middle, 3‴–4‴ below their top; calyx 8‴–10‴ diam.; berry 4‴ long, 3‴ broad.—HAB. Caribbean Islands; [Haiti, Guadeloupe!]

4. **P. hirsuta,** *L.* Stem pubescent or glabrate; *leaves roundish,* 3-*lobed, hairy or ciliate:* lobes ovate, bluntish: petiole biglandular below its top: *glands stipitate; pedicels* 2, *jointed near their top;* calyx yellowish: crown short; *berry globose,* nearly thrice as long as the carpophore.—*Plum. Descr. t.* 88.—Bark smooth or slightly corky; leaves 2″–1″ diam.; pedicels jointed ½‴–1‴ below their top; calyx 6‴, berry 3‴–4‴ diam.—HAB. Jamaica!, *Macf., Bancr., Lane;* Antigua!, *Wullschl.;* [Guadeloupe!, on fences; Mexico! to New Granada!].

5. **P. villosa,** *Macf.* Stem pubescent or glabrate; *leaves ovate* or ovate-oblong, acuminate or blunt, entire or slightly 3-lobed, *hairy or ciliate:* petiole biglandular above the middle: *glands stipitate; pedicels* 2 (–3), *jointed below their top;* calyx yellowish: crown short; *berry globose,* as long as or twice as long as the carpophore.—*Cav. Diss.* 10. *t.* 272.—P. multiflora, *Cav.* (*non L.*).—Bark smooth; leaves 4″–1½″ long, 2″–¾″ broad; pedicels jointed 2‴ below their top; calyx 8‴–10‴, berry 4‴–5‴ diam.—HAB. Jamaica!, *Wullschl., March;* Antigua!, *Wullschl.;* Dominica!, *Imr.*

6. **P. hederacea,** *Cav.* Glabrous; *leaves roundish,* 3-*lobed:* lobes ovate, pointed: petiole biglandular above the middle: *glands subsessile;* pedicels 2–1: joint distant from their top; calyx yellowish: crown filamentose; *berry globose, about as long as the carpophore.*—*Plum. Descr. t.* 84.—P. lutea jamaicensis, *L. and Sw.?* (*non Cav.*).—Bark smooth; leaves 2″–4″ diam.; pedicels jointed 3‴ below their top; calyx 12‴–16‴, berry 5‴–6‴ diam.—HAB. S. Kitts!, *Els.;* Dominica!, *Imr.;* [Cuba!, Guadeloupe!, among maritime shrubs].

7. **P. angustifolia,** *Sw.* Glabrous; *superior leaves lanceolate or lanceolate-linear, acuminate,* rounded at the peltate base, inferior often difform, usually roundish-3-lobed: petiole biglandular above the middle: glands stipitate; pedicels 2–1: joint distant from their top; calyx yellowish, small: crown filamentose; *berry* ovoid, *longer than the carpophore.*—*Cav. Diss.* 10. *t.* 270. *Jacq. Fl. Schœnbr.* 2. *t.* 181.—P. longifolia, *Lam.* P. heterophylla, *Jacq.*—Superior leaves 4″–3″ long; calyx 6‴ diam.; berry 5‴ long, 3‴ broad.—HAB. Jamaica (*Sw., Macf.*), in thickets; [Key West, Cuba!].

8. **P. peltata,** *Cav.* Glabrescent; *leaves deeply* 3-*lobed,* peltate at the base: *lobes diverging, oblong,* with a bluntish point: petiole biglandular at or above the middle: *glands sessile; pedicels* single, *jointed about the middle;* calyx large, pale: crown filamentose; *berry ovoid, as long as the carpophore.*—*Plum. Desc. t.* 85. *Cav. Diss.* 10. *t.* 274.—Leaves 2″–3″ long, 3″–4″ broad; pedicels jointed 4‴ below their top; calyx 15‴–20‴ diam.; berry 5‴–6‴ long, 4‴ broad.—HAB. S. Vincent!, *Guild.;* [Haiti].

9. **P. leariloba,** *J. Hook.!* Pubescent or glabrate; *leaves tripartite: segments diverging, linear,* acuminate: petiole short, biglandular above the middle: glands subsessile or stipitate; *pedicels* 2 (–1), *jointed above the middle;* calyx yellowish: crown filamentose; berry "ovoid."—P. minima, *Sw.* (*non L.*). P. peltata, *Macf.* (*non Cav.*).—Leaves 1″–1½″ long, 2″–3″ broad: segments 3‴ broad, common base 3‴ long, not peltate; calyx 8‴–10‴ diam.—HAB. Jamaica!, *Macf., March,* on fences; Dominica!, *Imr.;* [Galapagos!].

10. **P. multiflora,** *L.* Stem pubescent; *leaves entire, ovate-oblong,* rigid, 3-plinerved, rugulose and glabrate above, *velvety beneath: petiole* short, *biglandular near the top:* glands sessile; pedicels 4–2, jointed below the middle; calyx small, yellowish: crown filamentose; *berry globose: carpophore* 0!—*Plum. Descr. t.* 90.—Linnæus remarked the hypogynous stamens, the gynophore being reduced, by which character Cavanilles's misinterpretation of the species is proved. Leaves reticulated beneath, 3″–2″ long, 15‴–9‴ broad; joint of the pedicel 1‴–2‴ distant from the base; calyx 6‴, berry 5‴ diam.—HAB. Dominica (*L.*); [Cuba!].

11. **P. appendiculata,** *Mey.!* Glabrous; *leaves entire, ovate-oblong* or ovate, 3 nerved, mucronate: *petiole biglandular below the middle:* glands large, sessile; pedicels 2,

jointed below the middle; calyx yellowish: crown long, filamentose; berry globose, subsessile.—Leaves chartaceous, 4″–3″ long, 28‴–10‴ broad; glands 2‴ above the base of the petiole; calyx 8‴, berry 4‴ diam.—HAB. Trinidad!, *Lockh.*, rare near Arima; [Guiana!].

12. **P. coriacea,** *Juss.* Glabrous; *leaves transversely oblong,* pointed or acuminate at both lateral ends, peltate at the 5-nerved base, truncate or slightly produced at the summit of the midrib: petiole biglandular below the middle: glands large, sessile; pedicels 2, the uppermost racemose; calyx yellowish: crown filamentose; *berry ovoid,* shortly stipitate.—*Ann. Mus.* 6. *t.* 39.—Leaves chartaceous, 1″–3″ long, 3″–8″ broad; glands 3‴–4‴ above the base of the petiole; calyx 8‴ diam.; berry 8‴ long, 5‴–6‴ broad: carpophore 1‴–2‴ long.—HAB. Jamaica!, *Pd.*, in woods above Manchester; [Panama!, New Granada].

Sect. 2. PENTARIA.—*Calyx* 5-*partite: tube cyathiform: crown sub-3-seriate, exterior distant from the disc, filamentose, much longer than the middle subentire one. Corolla* 0. —Petioles biglandular; stipules and bracteoles of *Cieca;* flowers scarlet.

13. **P. regalis,** *Macf.* Villous with scattered hairs; leaves ovate at the base, tapering into a mucronate, deltoid point, subentire or slightly hastate-3-lobed: petiole biglandular near its top: glands stipitate, small; pedicels 2–1, long, much exceeding the petiole, jointed below the top; *calyx scarlet,* subventricose at the base: *segments linear,* twice as long as the exterior crown; *berry globose, half as long as the carpophore.*—Approaching, by its characters *P. cuprea* and allied species, it connects *Murucuja* with *Cieca,* and would belong to the former section if the flower was not devoid of petals. Leaves 3″–2½″ long, 1½″–1″ broad at the base: petiole 8‴–6‴, pedicels 1½″–2″ long: joint 2‴ distant from their summit; calyx spreading-suberect, 1″ long, a little exceeding the elongated gynophore: segments 1½‴ broad; berry black, 5‴ diam.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*, *Don,* rare along roads in the mountains, Cold Spring Gap in S. Andrews, Port Royal, S. Davids.

Sect. 3. DECALOBA.—*Calyx* 5-*partite. Petals* 5. *Crown of* Cieca.—Petioles eglandular, stipules and bracts of *Cieca;* calyx rotate, yellowish or greenish-white.

* *Leaves eglandular beneath.*

14. **P. rubra,** *L.* Softly pubescent; *leaves* roundish, bilobed, cordate at the base, *eglandular:* lobes spreading, pointed: sinus mucronate, often produced into a rudimentary middle lobe; *pedicels simple,* 1–2, jointed near their top; calyx exceeding the corolla: both greenish-white: exterior filaments of the 3-seriate crown reddish (or green), nearly as long as the petals; berry rumpent, hairy, ovoid (or subglobose), 6-costate, at length longer than the carpophore.—*Plum. Descr. t.* 83. *Cav. Diss.* 10. *t.* 278.—P. capsularis, *L.* (*ex Plum. Ed. Burm. t.* 138. *f.* 2): a form with large flowers and angular fruit. P. capsularis, *Bot. Mag. t.* 2863: a form with small flowers and large fruit. P. erubescens, *Macf.*—Variable in the leaves, slightly or deeply bilobed, the size of the flowers, and of the fruit. Leaves 2″–3″, flowers 2″–1″ diam.; berry 2″ long, or smaller, red.—HAB. Jamaica!, all coll., common; Antigua!, *Wullschl.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [Panama!, Venezuela!, New Granada!].

15. **P. sexflora,** *Juss.* Softly pubescent; *leaves* roundish, often broader than long, *bi-trilobed,* or sinuate-subtruncate at the top, *eglandular:* lobes spreading, middle smaller or reduced; *peduncles tripartite, geminate:* pedicels equalling the petiole, obscurely jointed near the top; calyx exceeding the corolla: both greenish-white: exterior filaments of the 3-seriate crown variegated-purple, as long as the petals; berry hairy, globose, as long as the carpophore.—*Ann. Mus.* 6. *t.* 37. *f.* 1.—Leaves 3″–2″ broad, 2″–1¼″ long; flowers 10‴, berry 4‴ diam.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, *Wullschl.*, common; S. Kitts!; [Mexico!, Cuba!, Haiti].

** *Leaves ocellated with glands beneath.*

16. **P. rotundifolia,** *L.* (*non Sw.*). Stem pubescent, striate; *leaves roundish,* obsoletely 3-lobed-sinuate at the broadly truncate top, *pubescent, ocellated* with scattered glands *beneath: lobes* rounded, *lateral erect;* pedicels simple, geminate, jointed near the top; calyx exceeding the whitish corolla: exterior filaments of the 3-seriate crown as long as the petals; berry hairy (or glabrate), globose, shorter than the carpophore.—*Plum. Ed. Burm. t.* 138. *f.* 1. *Cav. Diss.* 10. *t.* 290.—P. alnifolia, *Kth.* P. bogotensis, *Benth.*—Leaves

2″–3″, flowers 16‴, berry 3‴ diam.; carpophore 5‴ long.—Hab. Dominica!, *Imr.*; S. Vincent!, *Guild.*; [Venezuela!, New Granada!].

17. **P. biflora,** *Lam.* Glabrescent; stem angular; *leaves half-roundish,* obsoletely 3(–2)-lobed or repand at the broadly truncate top, *ocellated* with scattered glands *beneath: lateral lobes* or angles *spreading;* pedicels simple, 2–1, jointed above the middle; calyx exceeding the whitish corolla: exterior filaments of the 3-seriate crown nearly as long as the petals; berry (immature) globose, glabrous, shorter than the carpophore.—*Cav. Diss.* 10. *t.* 288.—P. hemicycla, *Mey.!*—Leaves 2″–1½″ long, 4″–2″ broad; flowers 10‴–12‴ diam. —Hab. Dominica!, *Imr.*; Trinidad!, *Cr.*; [Guadeloupe!, Panama!, New Granada, Guiana!].

18. **P. triflora,** *Macf.* "Stem pubescent; leaves glabrescent, 3-lobed, subcordate, ocellated beneath: lateral lobes diverging, acute, middle indistinct; *peduncles* geminate, 3-*flowered;* calyx exceeding the white corolla: exterior filaments of the 3-seriate crown purple, tipped with white."—From Macfadyen's description it seems to approach *P. holosericea,* L. (of Mexico, Veraguas!, and Cuba!), which, however, has a biglandular petiole and different leaves.—Hab. Jamaica (*Macf.*), in the district of Portland.

Sect. 4. Granadilla.—*Calyx* 5-*partite, supported by a large,* 3-*leaved or* 3-*fid, persistent involucel, the divisions of which are entire. Petals* 5. *Crown* 3–5-*seriate: exterior rows filamentose.*—Petioles glanduliferous: stipules elongated, often foliaceous; pedicels single, axillary.

* *Leaves entire, pinnatinerved.*

19. **P. laurifolia,** *L.* Glabrous; stem cylindrical; leaves oval, quite entire: *petiole biglandular at the top,* as long as the spathulate-linear stipules; *involucel* 3-leaved, *equalling the* variegated *flower:* leaflets ovate, blunt, repand with large, marginal glands towards the summit; crown 3-seriate, as long as the flower; berry large, ovoid.—*Plum. Desc. t.* 80. *Jacq. Amer. Pict. t.* 219. *Desc. Fl.* 1. *t.* 56.—Leaves 4″–2″ long; flower 2½″ diam., white with red blotches, and crown violet with white streaks; petals equalling the calyx, a little exceeded by the thickish filaments of the middle crown-row; berry 3″ long.—Hab. Antigua!, *Finl.*, *Wullschl.*; cultivated in Jamaica; [Guadeloupe!, New Granada!, Guiana!, Brazil!].

20. **P. maliformis,** *L.* Glabrous; stem cylindrical; leaves ovate or ovate-oblong, pointed, quite entire: *petiole biglandular above the middle,* exceeding the lanceolate-linear stipules; *involucel* 3-leaved, *half as long again or twice as long as the* variegated *flower:* leaflets ovate, cuspidate, quite entire, membranaceous, puberulous within; crown 3-seriate, as long as the flower; berry "large, globose, impressed at the top."—*Plum. Descr. t.* 82. *Bot. Reg. t.* 94.—P. ornata, *Kth.*—Leaves 6″–3″ long; flowers 2″, involucre 3″–5″ diam.; middle crown-row as long as the flower; berry "size of a small apple."—Hab. Jamaica!, *Waters*; Antigua!, *Wullschl.*; [Haiti! to New Granada!].

21. **P. quadrangularis,** *L.* Glabrous; *stem* 4-*winged;* leaves ovate-roundish, subcordate at the base, mucronate, quite entire, arch-veined: *petiole bearing* 2–3 *gland-pairs at and below the summit,* exceeding the large, ovate or ovate-oblong stipules; *involucel* 3-leaved, *exceeded by the* variegated *flower:* leaflets ovate, pointed, quite entire, membranaceous; crown 5-seriate: two exterior rows exceeding the flower; berry large, ovoid.—*Cav. Diss.* 10. *t.* 283. *Jacq. Amer. Pict. t.* 218.—Variable in the size of flower and fruit. Leaves 6″–3″, stipules 1″ long; flowers 3″–5″ (–2″) diam.; petals rosy: crown violet; berry 5″ long, or smaller.—Hab. Jamaica!, *Waters,* in woods and cultivated; [Cuba, Panama!, Peru!, Brazil!].

** *Leaves palmatifid, palmatinerved.*

22. **P. serrata,** *L.* Glabrous; *leaves deeply* 7–5-*lobed,* long-petioled: *lobes* oblong or obovate-oblong, pointed, *serrulate:* petiole bearing 2 alternate, stipitate glands about the middle, and another pair near the summit, much exceeding the elongated-filiform, deciduous stipules; *involucel* 3-*fid,* as long as the flower: lobes ovate, mucronate, quite entire; crown 3-seriate, as long as the flower; berry "large, globose."—*Plum. Desc. t.* 79. *Cav. Diss.* 10. *t.* 296. *Desc. Fl.* 5. *t.* 349.—Leaves 6″–4″ diam.: petiole 3″–2″, stipules 8‴–10‴ long; flowers 4″ diam.; pétals rosy: crown blue, with transverse, white bands; berry "2″ diam."—Hab. Dominica!, *Imr.*; Trinidad!, *Sch.*; [French islands!].

Of the allied West Indian species, viz. *P. incarnata*, L., 2 sessile glands at the summit of the petiole; *P. filamentosa*, Cav., involucel serrate; and *P. pedata*, L. (Desc. Fl. t. 351), involucel serrate, and leaves pedatipartite, none occur in our collections.

Sect. 5. DYSOSMIA.—*Calyx 5-partite, supported by a large, 3-leaved involucel, the leaflets of which are divided. Petals 5. Crown 3–5-seriate: exterior rows filamentose.*—Petioles bearing indefinite, long-stipitate glands, or eglandular: stipules usually divided; pedicels simple, 1–2, axillary; flowers whitish.

23. **P. pectinata,** *Gr.* (*n. sp.*). *Glabrous;* leaves cordate-deltoid, slightly 3-lobed, contracted below the middle, crenulate-repand with minute marginal glands on the summit of the excurrent veins: petiole eglandular: stipules subulate, rigid, often glanduliferous at the base; pedicels single; *involucel-leaflets linear, simply pinnatipartite: segments short,* distant, excurrent into a gland; crown half as long as the narrow calyx-segments.—Stem woody below, striate-angular; leaves 2″–1¼″ diam., 5-nerved, pointed, with rounded auricles, very glabrous, eglandular on the surface: petiole 6‴–8‴, stipules 2‴ long; tendrils as long as the leaves; pedicels flexuose, about 1″ long; involucel 1″ long, as long as the flower: leaflets liguliform: the middle portion ½‴ broad, the segments 1‴ distant from each other, spreading, setaceous, slightly dilated at the base, 1‴ long or shorter: terminal gland ovoid; calyx-segments tapering from the 2‴ broad base, exceeding the linear petals: exterior crown-filaments 6‴ long, as long as the gynophore; interior rows formed of short filaments.—HAB. Bahamas!, *Hjalmars*, Turk Islands.

24. **P. ciliata,** *Ait.* *Glabrous,* glanduliferous; leaves 3-lobed, truncate or subcordate at the base, subserrate, bearing long-stipitate glands on the serratures and the petiole: lobes spreading, lateral semiovate, middle oblong, pointed: stipules multipartite, glanduliferous; pedicels geminate; *involucel-leaflets bipinnatipartite:* secondary segments long-setaceous, excurrent into a gland; exterior crown nearly as long as the flower, innermost entire.—*Bot. Mag. t.* 288.—Leaves 2″–1½″ diam.: petiole 1″–½″, stipules 4‴ long; pedicels 1½″, involucel 1″ long: secondary segments 2‴–3‴ long, ultimate exceeding the flower; calyx-segments oblong-lanceolate, 8‴–6‴ long, equalling the lanceolate petals; gynophore half as long as the flower, half-enclosed within the spreading, innermost crown: 2 middle crown-rows formed of short filaments.—HAB. Bahamas!; Jamaica!, *Pd.*, in the Black River savannah.

25. **P. fœtida,** *L.* *Villous* and glanduliferous; leaves roundish, 3-lobed or angular, usually cordate at the base, ciliate with hairs and glands on the denticulate or subentire margin: stipules multipartite; pedicels 1–2; *involucel-leaflets 3-pinnatipartite:* tertiary segments long-setaceous, excurrent into a gland; exterior crown exceeded by the flower, innermost entire; berry ovoid.—*Cav. Diss.* 10. *t.* 289. *Desc. Fl.* 5. *t.* 375.—P. hibiscifolia, *Lam.* P. gossypifolia, *Desv.*—Variable in the leaves and down; leaves 2″–5″ diam.; flowers white with the crown rosy; sepals oblong, 1″ long or shorter, equalling the homomorphous petals, somewhat exceeded by the ultimate involucel-segments.—HAB. Jamaica!, all coll., common on fences; all Caribbean Islands! to Trinidad!, *Cr;* [Cuba! and Mexico! to Brazil!].

Sect. 6. MURUCUJA.—*Calyx deeply 5-lobed or 5-partite: tube campanulate or cyathiform. Petals 5. Crown 1–2-seriate: exterior inserted into the calyx-throat, filamentose or entire, interior plaited or lacerate, covering the disc.*—Leaves ocellated beneath: petiole eglandular; bracteoles minute or none.

The entire crown of the original *Murucuja* is, as Linnæus observed, no generic character, and, though this section is a connecting link with *Tacsonia,* it is better retained in *Passiflora,* into which it passes by *Pentaria* and by *P. penduliflora.*

* *Calyx campanulate, greenish-white; crown partitioned.*

26. **P. penduliflora,** *Berter.* Glabrous; stem striate-angular; leaves roundish, slightly 3-lobed at the sinuate or subtruncate top, ocellated with scattered glands beneath: lobes broadly rounded, mucronulate, erect; pedicels simple, 2–1, often elongated-pendulous, jointed below the middle; *calyx campanulate,* exceeding a little the whitish corolla: *crown 1-seriate,* 12–14-*partite:* segments thickened above, orange-coloured, *much exceeded by the petals;* gynophore exserted; berry globose, as long as the carpophore.—*Bot. Mag. t.* 4565.

—P. rotundifolia, *Sw.* (*non L.*).—This species by its singular crown, connects *Decaloba* with *Murucuja*. Leaves 3″–2″ diam.; flowers 1″–½″ long; berry 10‴ diam.—HAB. Jamaica !, all coll., common in the mountains.

** *Calyx red: tube campanulate or cyathiform; crown filamentose.*

27. **P. oblongata,** *Sw.* Glabrous; *leaves longer than broad*, rounded or cuneate at the base, 3–2-lobed or rounded at the top, 3-mucronulate, ocellated with biseriate, distant glands beneath; *pedicels* jointed above the middle, *equalling the petiole*, simple, 1–2 (–5), superior or lateral racemose: bracteoles setaceous; *calyx crimson: tube campanulate, thrice shorter than the oblong-linear lobes;* petals linear, exceeded by the calyx; crown short, filamentose, distant from the lacerate appendages of the disc; gynophore nearly equalling the petals; berry globose.—Stem shrubby: bark rimose-corky: scandent branches striate-angular; leaves very variable: lobes erect, bearing 3–4 glands between the lateral nerves and the midrib; pedicels 8‴, bracteoles 1½‴–2‴, calyx-tube 4‴, lobes 12‴, petals 10‴, crown-filaments 1‴ long: interior crown reaching to the middle of the calyx-tube.

α. Leaves cuneate or rounded at the base (4″–1½″ long, 3″–¾″ broad): lobes 3, short, blunt, equal, or the middle longer, or all obsolete.

β. *lyrifolia,* Tuss. Leaves rounded at the base, oblong, bilobed about to one-fifth (6″ long, 3″ broad): lobes acuminate, much exceeding the middle mucro.—*Tuss. Fl.* 1. *t.* 4. *Desc. Fl.* 4. *t.* 255.—HAB. Jamaica !, *Pd., M'Nab, March* (*α*); *Bancroft* (*β*), *e.g.* S. Anns.

28. **P. tacsonioides,** *Gr.* (*n. sp.*). Glabrous; *leaves broader than long*, subtruncate or slightly 3-lobed, 3-mucronulate, broadly rounded or truncate at the base, ocellated with biseriate distant glands beneath; *pedicels* axillary, simple, 2–1, *twice as long as the petiole*, jointed about the middle: bracteoles 3, setaceous; *calyx red: tube campanulate, thrice shorter than the oblong-linear lobes;* petals linear, exceeded by the calyx; crown short, filamentose, distant from the lacerate appendages of the disc; gynophore equalling the petals. —Stem, bark, and flower-structure as in preceding, but the leaves of *P. orbiculata*, Cav. Leaves 3″–2″ broad, 1½″–1″ long, bearing 6–4 glands between the midrib and the lateral nerves, which diverge in a right-angle: petiole eglandular, 8‴–6‴ long: stipules lanceolate-setaceous, 1‴ long; tendrils as long as the leaves; pedicels 12‴–15‴, bracteoles 1½‴–2‴ long; calyx-tube 4‴–5‴ long: segments 12‴–15‴ long, 3‴–4‴ broad; petals 8‴ long, 1‴ broad; crown-filaments 1‴ long: interior crown reaching to the middle of the calyx-tube; immature berry ovoid, exserted.—HAB. Jamaica !, *Wullschl.*, Manchester at Huntley.

29. **P. perfoliata,** *L.* Stem and petioles pubescent; leaves glabrous, 4–2 times broader than long, shortly petioled, deeply cordate at the base, clasping with their rounded auricles, slightly 2–3-lobed, subretuse to 3-mucronulate, glaucous and ocellated with scattered glands beneath: lateral lobes horizontally diverging, oblong, middle reduced; *pedicels* axillary, single, *much exceeding the petiole*, often equalling the leaf, jointed above the middle: 3 bracteoles setaceous; *calyx crimson: lobes linear, acuminate, half as long again as the campanulate tube;* petals oblong-lanceolate, pointed, exceeding the concolor calyx; crown-leaflets linear, blunt, much exceeded by the calyx, approximate to the plaited disc-covering; gynophore equalling the petals; berry large, globose.—*Sl. t.* 143. *f.* 3, 4.—P. normalis, *L. ex Pl. Cult.*—Leaves 4″–2″ broad, 1″–8‴ long, cordate to the middle: petiole 2‴; pedicels 1″–1½″ long, jointed 3‴–4‴ below the top; calyx-tube 4‴–5‴, petals 8‴ long; berry 10‴ diam.—HAB. Jamaica !, all coll., on fences from the seacoast upwards to the mountains.

30. **P. cuprea,** *L.* Glabrous; leaves roundish-oval, entire, mucronulate, shortly petioled, reticulated on both sides, ocellated with a few glands beneath; *pedicels* single, *much exceeding the petiole*, jointed at the middle, ebracteolate, uppermost racemose; *calyx purple: tube shortly cyathiform, much exceeded by the* oblong-linear *segments;* petals oblong-linear, shortly exceeded by the calyx; crown-leaflets linear, blunt, much exceeded by the calyx, approximate to the disc; gynophore equalling the flower, dilated at the top; berry ovoid-globose.—*Jacq. Ic. Rar. t.* 606.—P. Cavanillesii, *DC.* (*Cav. Diss. t.* 273), probably a pubescent form.—Leaves 1½″ long, 15‴–12‴ broad: petiole 3‴ long; pedicels 1″, calyx-tube 1½‴, segments 10‴–12‴ long; berry 6‴ long, 4‴–5‴ broad.—HAB. Bahamas (*Linn.*) [Cuba !].

*** *Calyx red: tube cyathiform; crown entire.*

31. **P. Murucuja,** *L.* Glabrous, leaves bilobed, or transversely oblong, 3-mucronu-

late, shortly petioled, reticulated on both sides, ocellated with biseriate, distant glands beneath: lobes rounded at the top; *pedicels* simple, 1–2, *much exceeding the petiole*, jointed about the middle: bracteoles long, setaceous; *calyx crimson*: tube shortly cyathiform, much exceeded by the oblong-linear segments; petals oblong-linear, shortly exceeded by the calyx; *crown tubular, entire,* truncate; gynophore equalling the flower, enclosed below within the crown; berry ovoid-globose.—*Cav. Diss.* 10. *t.* 287. *Tuss. Fl.* 2. *t.* 7. *Desc. Fl.* 1. *t.* 62.—Murucuja ocellata, *Pers.* P. coriacea, *Rich.* (*non Juss.*).—Leaves variable, often with a rudimentary middle lobe, cuneate or subcordate at the base, 2″–1″ broad, about 1″ long: petiole 4‴ long; pedicels 1″–1½″, calyx-tube 2‴, segments about 1″ long; berry 8‴–10‴ long, 6‴–8‴ broad.—Hab. Jamaica!, *Bancr.*, in mountain woods; [Cuba!, Haiti!].

2. TACSONIA, *Juss.*

Calyx 5-lobed: tube cylindrical, furnished with 2 crowns, one at the throat, the other near its base. *Stamens, pistil,* and *berry* of *Passiflora.*—Shrubby vines; pedicels *axillary.*

32. **T. sanguinea,** *DC.* Stem puberulous; leaves glabrous above, hispidulous beneath, equally glandular-serrate, inferior deeply 3-lobed with spreading lobes, superior oblong, pointed: petiole 4–2-glandular: 2 *inferior glands near its base, superior alternating near the middle: stipules small, subulate;* flowers scarlet; calyx-tube shortly campanulate, twice as long as the 3 lanceolate, glanduliferous involucel-leaflets; sepals and petals oblong-lanceolate, thrice as long as the calyx-tube, exceeding the gynophore; upper crown biseriate, with both rows filamentose, lower subentire, a little exceeded by the calyx-tube.—*Bot. Mag. t.* 4674.—Passiflora, *Mey. Esseq.!*—Hab. Trinidad!, *Lockh.*, *Cr.*, in woods at Arima; [Guiana!].

3. RYANIA, *V.*

Calyx 5-partite, imbricate at the base. *Petals* 0. *Stamens* ∞, hypogynous, inserted on the outside of a disc or hairs: anthers incumbent, elongated-linear. *Ovary* sessile: placentas 5–4. *Style* simple: stigma minute, 5–4-lobed. *Pericarp* capsular: seeds smooth.—Trees; leaves *entire: down stellate;* flowers *axillary.*

The characters of *Ryania* recall *Bixineæ*, but the distinction of *Passifloreæ* rests upon the stamens, which are free from the disc, and the wanting pellucid dots. The hypogynous disc (perhaps a transformation of the gynophore of *Passiflora*) is usually urceolate and hairy, but replaced by hairs in *R. parviflora* (*Deless. Ic.* 3. *t.* 14.)

33. **R. speciosa,** *V.* Branchlets and calyx rusty-tomentose; leaves oblong, pointleted, shortly petioled, glabrous above, puberulous beneath: secondary veins transverse, approximate; *pedicels* geminate, equalling the petiole, 6–9 *times shorter than the flower;* calyx-segments oblong-lanceolate, as long as the very numerous stamens; disc urceolate; stigma 5-globose; capsule 5-valved to the middle: placentas enlarged.—*Vahl, Eclog.* 1. *t.* 9.—Leaves 6″–8″, petiole 2‴, calyx 16‴–18‴ long, the latter persistent, equalling the ovoid capsule.—Hab. Trinidad!, *Pd.*, *Cr.*, in mountainwoods; [Guiana, Venezuela!].

LXXX. TURNERACEÆ.

Characters of *Passifloreæ*, but stamens hypogynous.

1. TURNERA, *L.*

Calyx 5-fid or 5-partite. *Petals* 5, inserted into the calyx-throat. *Stamens* 5, anthers elongated, erect. *Ovary* sessile: styles 3, penicillate-multifid above: placentas 3. *Capsule* 3-valved above, medianicide: seeds scrobiculate.—Herbs *or* shrubs; leaves *stipulate;* flowers *axillary:* pedicels *often accrescent to the petiole.*

1. **T. ulmifolia,** *L.* Shrubby, virgate, pubescent; leaves biglandular at the base, oblong, ovate or lanceolate, acuminate, serrate above the cuneate base, petioled; *pedicels short, petiolar: bracteoles lanceolate, serrate below, shortly exceeding the calyx-tube;* calyx deeply 5-lobed, exceeded by the large obovate petals: segments lanceolate, acuminate;

capsule much exceeded by the bracteoles: seeds many, cylindrical.—*Sl. t.* 127. *f.* 4, 5. *Desc. Fl.* 4. *t.* 302.—Flowers yellow, $1\frac{1}{2}''$ long.—HAB. Bahamas!, Jamaica!, all coll., common; Caribbean Islands!; [Cuba! and Mexico! to Brazil! and Peru!; Galapagos!].

2. **T. parviflora,** *Benth.!* Shrubby, villous; leaves biglandular at the base (or "eglandular"), ovate, bluntish, coarsely crenate-serrate above the cuneate base, shortly petioled, velvety beneath; *flowers* subsessile, *free from the petiole: bracteoles linear, entire, nearly equalling the calyx;* calyx hirsute, 5-lobed, a little exceeded by the petals; capsule half as long as the bracteoles; seeds few, ovoid-globose.—T. tomentosa, *Kth.* (*non W.*): a monstrosity with 6 petals.—Habit of *Melochia hirsuta;* calyx $3'''$–$4'''$ long.—HAB. Trinidad!, *Lockh., Cr.;* [Guiana!, Brazil!].

3. **T. Pumilea,** *L.* Annual, hirsute; leaves eglandular, oblong-lanceolate, inciso-serrate above the tapering base, shortly petioled, floriferous clustered: veins excurrent between the serratures; *flowers sessile, inserted into the summit of the petiole;* calyx hirsute, 5-partite, equalling the linear, entire bracteoles, enclosing the convolute petals: segments linear; capsule nearly as long as the bracteoles: seeds incurved, deeply scrobiculate.—*Sl. t.* 127. *f.* 6. —A few inches high, or spithameous; flowers $2'''$–$3'''$ long, tawny: petals clawed, with a roundish limb.—HAB. Jamaica!, *Sw., Wullschl.*, in sandy savannahs.

2. TRIACIS, *Gr.*

Calyx campanulate, 5-dentate. *Petals* 5, sessile at the calyx-throat. *Stamens* 5, anthers sagittate. *Ovary* sessile: styles 3, entire below the 6-fid summit: placentas 3. *Capsule* 3-seeded, medianicide-3-valved to the base: seeds scrobiculate.—A small shrub; leaves *minute, pinnatifid, stipulate;* flowers *axillary, bibracteolate, shortly pedicellate.*

This genus is intermediate between *Turnera* and *Piriqueta:* it is distinguished from *Turnera* by its calyx and the capsule-valves of *Piriqueta*, from the latter by the less divided styles, the inflorescence and habit, and from both by its 3-seeded capsule.

4. **T. microphylla,** *Gr.*—Turnera, *Desv.*—Habit of *Ayenia;* branchlets spreading, rugulose-warty, hairy, glabrescent: inferior internodes much longer than the leaves; leaves $2'''$–$3'''$ long, $1'''$ broad, eglandular, glabrous above, hairy beneath, plaited with impressed lines between the lobes: lobes 3–4-jugal, revolute on the margin, ovate, pointed: petiole very short; pedicels $1'''$ long, or shorter, from the axils of clustered leaves; calyx $2'''$ long: campanulate tube as long as or longer than the oblong, subentire bracteoles: teeth ovate, pointed, 3–4 times shorter than the tube, a little exceeded by the spathulate, sessile petals; stamens equalling the calyx-tube; ovary strigose; capsule subglobose, exceeding the bracteoles; seeds bluntly cylindrical, slightly incurved, minutely scrobiculate: caruncle minute.—HAB. Bahamas!, *Swains.;* [Cuba!, Haiti].

3. TRIBOLACIS, *Gr.* (*n. gen.*).

Calyx clavate, constricted above the base, 5-dentate. *Petals* 5, sessile, inserted into the middle of the calyx-tube. *Stamens* 5: anthers incumbent. *Ovary* sessile; styles 3, filiform, entire below the 3-fid summit: placentas 3. *Capsule* 3-seeded, medianicide-3-valved to the base: seeds scrobiculate.—A suffrutescent, glabrous, rush-like herb; leaves *filiform, sessile, exstipulate;* flowers *in a few-flowered, terminal raceme: pedicels short, continuous 3-bracteolate at the top.*

This genus approaches *Piriqueta.* Its stiff habit is quite peculiar, and recalls some *Linariæ.*

5. **T. juncea,** *Gr.*—Root slender, creeping, perennial, with a cæspitose tuft of stiff stems and branches; stem $1'$ high, $1'''$ thick or less, much branched at the base, striate-cylindrical, growing aphyllous below at the time of flowering; leaves distant, $12'''$–$6'''$ long, $\frac{1}{4}'''$ broad, the uppermost decrescent, transformed into bracts; raceme 6–10-flowered, interrupted below: pedicels $1'''$ long; calyx $4'''$ long: subcylindrical base $1'''$ long, as long as the oblong-linear bracteoles, distinct by a slight stricture from the upper clavate portion: teeth $\frac{1}{2}'''$ long, pointed, traceable downwards, where they are connected by the membraneous part of the tube; petals delicate, convolute, spathulate, $3'''$ long, shortly exserted; stamens adherent a little to the lowest part of the calyx-base, equalling the calyx: anthers oblong;

styles delicate, trifid to one-fourth, much longer than the unilocular ovary; capsule globose, exceeding the persistent bracteoles; seeds pale, minutely scrobiculate, shortly and bluntly cylindrical, slightly incurved: caruncle decurrent by a short, wing-like appendage, as in *Piriqueta cistoides*.—HAB. Trinidad!, *Cr.*, at Piarco.

4. PIRIQUETA, *Aubl.*

Calyx 5-fid. *Petals* 5, sessile at the calyx-throat. *Stamens* 5, hypogynous; anthers inserted above their base. *Ovary* sessile: styles 3, bipartite, with the filiform segments multifid-penicillate at the summit: placentas 3. *Capsule* 3-valved to the base, medianicide: seeds scrobiculate.—Annual herbs; leaves *exstipulate; flowers in a terminal raceme or corymb: pedicels jointed above the middle, ebracteolate.*

6. **P. cistoides,** *Gr.* Pilose (or glabrescent); *leaves eglandular*, lanceolate or lanceolate-linear, bluntish, *remotely serrate* or serrate-repand, usually tomentose with stellate down beneath and pilose; *raceme leafy*, few-flowered: pedicel 2–3 times exceeded by the bract.—*Sl. t.* 127. *f.* 7.—Turnera, *L.* P. jonidioides, *Rich.*—A variable plant, resembling a *Helianthemum* by its yellow, delicate petals; flowers 6‴ diam.—HAB. Jamaica!, all coll., common on arid plains; Dominica!, *Imr.*; Trinidad!, *Cr.*; [Cuba and Panama! to Brazil!].

LXXXI. HOMALINEÆ.

Stamens inserted into the calyx-throat, alternate to or fascicled alternately with the calyx-segments, and ovary usually semi-inferior: other characters of *Passifloreæ*.—Woody plants.

1. HOMALIUM, *Jacq.*

Calyx-tube turbinate: limb 6–7-partite. *Petals* 6–7, inserted into the calyx-throat. *Stamen-bundles* opposite to the petals, alternating with as many glands. *Ovary* semi-inferior: styles 3: placentas 3. *Capsule* medianicide-3-valved at the top.—Leaves *serrate or subentire; flowers in spiciform racemes.*

1. **H. racemosum,** *Jacq.* Leaves elliptical-oblong, papery, serrate, glabrous; racemes axillary, long: flowers shortly pedicellate; *staminal bundles* 3(-"4")-*androus.*—*Jacq. Amer. Pict. t.* 261. *f.* 43: *the flower; Sw. Fl. t.* 17: *analyt.*—A tree or shrub; leaves 5″–3″ long; flowers 8‴ diam.: petals greenish-yellow, sessile.—HAB. Jamaica!, *Macf.*, *Pd.*, *March*, in mountain woods; Dominica!, *Imr.*; [Cuba!, French islands!].

LXXXII. LOASEÆ.

Stamens mostly indefinite, epigynous. *Pistil* paracarpous: ovary inferior, unilocular: style 1. *Fruit* capsular, rarely baccate: placentas intervalvular: seeds albuminose.—Herbs, *mostly armed with stinging hairs;* leaves *exstipulate.*

1. MENTZELIA, *L.*

Calyx-tube cylindrical or clavate: limb 5-partite. *Petals* 5. *Stamens* ∞, exterior often dilated. *Capsule* 3-valved at the top.—Leaves *alternate.*

1. **M. aspera,** *L.* Rough with glochidate and simple hairs; leaves petioled, hastate-3-lobed or "panduriform" (*Linn.*), unequally serrate; petals oval, a little exserted; stamens 20–30, half as long as the corolla, 5 exterior filaments spathulate; capsule clavate-cylindrical, few-seeded.—A tall, annual weed; flowers yellow, small, 8‴–10‴ diam.—HAB. Jamaica (*P. Br.*, *Macf.*), in dry savannahs near Kingston; [Haiti; Mexico!; to Panama!; Galapagos!].

LXXXIII. ARISTOLOCHIACEÆ.

Flowers apetalous. *Calyx* coloured. *Stamens* epigynous: anthers extrorse, often adnate to the style. *Ovary* paracarpous, at length 6–3-celled by the many-ovulate placentas cohering in the axis: stigma divided. *Embryo* minute, in the top of fleshy endosperm.—Leaves *alternate, often cordate.*

Tonic, aromatic, or acrid principles are general, and several West Indian species are, as medical plants, analogous to the North American Serpentaria, e.g. *Aristolochia odoratissima. A. trilobata* is reputed as an antidote against the bite of serpents; *A. grandiflora* is poisonous. The majority of West Indian *Aristolochiæ* is confined to Cuba and Haiti.

1. ARISTOLOCHIA, *L.*

Calyx-limb irregular, usually unilabiate, inflated-tubular at the base. *Anthers* 6–5, subsessile in the column. *Ovary* 6–5-celled: style-canal conspicuous: stigma 6–3-lobed. *Capsule* upwards septicide.—Herbs *or* shrubs, *often twining;* stipules *axillary or none;* flowers *usually axillary and lurid.*

Sect. Gymnolobus, *Duchartr.* (Howardia, *Kl.*).—*Column naked,* i.e. *devoid of transverse appendages: anthers* 6, *single below the* 6 *stigma-lobes.*—Flowers in our species solitary in the axils.

* *Calyx-limb bilabiate, large.*

1. **A. ringens,** *V.* Glabrous, twining; leaves reniform, pedatinerved: basilar sinus broadly spreading: stipules cordate-roundish, persistent; *calyx-limb bilabiate,* inflexed: base obovoid, longer than the constricted tube: upper lip linear-oblong, conduplicate, lower somewhat shorter, roundish, contracted into a long claw.—*Vahl, Symb. t.* 47.—A. grandiflora, *V.* (*non Sw.*).—Leaves 3″–5″ diam.; size of flower variable: inflated calyx-base 1″–2″, inflexed tube 8‴–12‴, upper subsessile lip 4″, lower (the claw included) about 3″ long, its lamina 10‴–12‴ diam.—Hab. Jamaica!, *Pd.;* [Venezuela!, New Granada!].

** *Calyx-lip single, peltate.*

2. **A. grandiflora,** *Sw.* Glabrous or glabrescent, twining; leaves cordate, pointed, pedatinerved: basilar sinus open: stipules none; pedicels long, bracteate about the middle; *calyx-limb unilabiate,* inflexed, very large: tube oblique, 6-costate, 6-gibbous at the base: *lip peltate,* broadly ovate, irregularly undulate-crenate, entire at the base, *produced at the top into a long, filiform tail.*—*Tuss. Fl.* 1. *t.* 27; *Desc. Fl.* 3. *t.* 157.—A. arborescens, *Desc.* A. gigas, *Lindl.* A. fœtens, *Lindl.*—Leaves 3″–5″ diam.; flowers variegated-purple, very variable in size: lip 8″–4″ (–2″) long, twice as long as the inflated, erect portion of the tube, the tail a foot to several inches long.—Hab. Jamaica!, all coll.

3. **A. odoratissima,** *L.* Glabrous, twining; leaves cordate, pointed, pedatinerved: basilar sinus open: stipules oval, subpersistent; *calyx-limb unilabiate,* inflexed above the inflated base: constricted tube-portion short: *lip peltate, cordate-oblong,* longer than the tube, *mucronate.*—*Sl. t.* 104. *f.* 1; *Desc. Fl.* 5. *t.* 356.—A. glaucescens, *Kth.* (*Nov. Gen.* 2. *t.* 115) has the same flower.—Leaves 4″–5″ long; inflated base of the calyx-limb 6‴–8‴, cylindrical reflexed portion 6‴, lip 1⅓″–2⅓″, mucro 2‴ long.—Hab. Jamaica!, *Pd., Macf., Dist., March;* [Panama!, Venezuela!].

*** *Calyx-lip single, unilateral, distinct from the truncate tube.*

4. **A. barbata,** *Jacq.* Stem twining, glabrescent; leaves cordate-oblong, bluntish, pedatinerved, puberulous beneath: basilar sinus open: stipules none; *calyx-limb* incurved, infundibular above, *abruptly unilabiate* at its truncate mouth: *lip* short, *roundish,* contracted at the base, *devoid of a terminal appendage, internally pilose above the middle.*—*Jacq. Ic. Rar. t.* 608.—Leaves 3″ long; inflated base of the calyx-limb 8‴, upper portion of the tube 12‴ long, lip 6‴ diam.: tube purple-variegated, enlarged from the middle, 8‴–10‴ diam. at its mouth: lip black at the pilose part.—Hab. Trinidad!, *Cr.,* at S. Anns; [Venezuela].

5. **A. trilobata,** *L.* Stem twining, glabrescent; *leaves 3-lobed,* truncate or subcor-

date at the base, pedatinerved, puberulous beneath : lobes spreading, oblong or ovate-oblong, blunt : stipules cordate-roundish, large, persistent; *calyx-limb* inflexed, 6-spurred at the base, campanulate, *abruptly unilabiate* at its truncate mouth : *lip* roundish or ovate-oblong, *produced at the top into a long, filiform tail.*—*Jacq. Eclog. t.* 26; *Bot. Mag. t.* 3769.—A. macrura, *Mart.* A. caudata, *Hook.* (*non L.*).—Leaves 3″–6″, stipules 1″–1½″ diam.; inflated base of the calyx-limb ovoid, 1″–2″ long : basilar spurs bluntly filiform, 2‴–3‴ long : upper portion of the tube 2″–2½″ long : lip 8‴ diam., tail several inches to above a foot long.—Hab. Jamaica!, *Dist.*, *Wils.*; Antigua!, *Wullschl.*; Dominica!, *Imr.*; Barbadoes!; Trinidad!, *Sch.*; [S. Thomas!, Guadeloupe!; Panama!, Guiana!, Brazil!].

**** *Calyx-lip single, continuous with the tube.*

6. **A. obtusata,** *Sw.* Stem twining, glabrous; leaves cordate-oblong, bluntish, pedatinerved, puberulous beneath : basilar sinus narrow, open : stipules none; *calyx-limb* "*straight : lip continuous with the tube,* ovates blunt, devoid of a terminal appendage, externally pubescent."—*Plum. Ed. Burm. t.* 33.—Leaves 3″–4″, calyx-limb 1″ long.—Hab. S. Vincent!, *Guild.*; [Guadeloupe!].

LXXXIV. CACTEÆ.

Sepals, petals, and *stamens* indefinite, connected below. *Pistil* paracarpous : ovary inferior, unilocular, many-ovulate : stigmas distinct. *Pericarp* baccate. *Seeds* exalbuminose, or with a scanty, central albumen.—Succulent plants; leaves *mostly abortive, transformed into spine fascicles*; flowers *sessile.*

The berries of many *Cacteæ* are eatable. Of this Order I possess only scanty materials, chiefly collected by the Rev. Mr. Wullschlaegel; to these I add only such species, the special habitat of which has been verified in the country.

1. MAMILLARIA, *Haw.*

Calyx-tube produced beyond the ovary, naked below. *Embryo* nearly undivided : cotyledons minute, pointed : albumen nearly wanting.—Stem *globose or cylindrical, tubercled : tubercles terminated with a fascicle of spines*; flowers *usually inserted into the tubercle-axils.*

1. **M. simplex,** *Haw.* "Stem simple, globose, at length obovoid-oblong : tubercles conical-ovate, blunt, bearing scanty wool on the areolæ : spines straight, 12–16 radial spreading, 4–5 central as stout : axils glabrous; flowers axillary, yellow (8‴ long)."—*Tuss. Fl.* 2. *t.* 32.—Cactus mamillaris, *L.*—4″–5″ high; tubercles 6‴–7‴, spines 4‴ long.—Hab. Jamaica (*P. Br.*); [Haiti, Venezuela].

2. MELOCACTUS, *DC.*

Character of *Mamillaria,* but the minute cotyledons "globose."—Stem *globose or conical, devoid of prominent tubercles, costate, terminated with a large, woolly crown* : flowers *small, concealed within its wool.*

2. **M. communis,** *DC.* Stem globose, at length ovate-oblong : ridges 12–20, argute, vertical : areolæ 12(–6)-spinose : spines stout, rigid, exterior spreading, inferior longest; crown cylindrical : its slender spines as long as the wool.—*Tuss. Fl.* 2. *t.* 27; *Desc. Fl.* 7. *t.* 315.—Cactus Melocactus, *L.*—Apparently variable in the number of ridges and spines; our specimens answer to Pfeiffer's diagnosis of *α*; Tussac's figure has shorter and less unequal spines. Stem "at length above 1′ high :" spines 12‴–6‴ long; flowers crimson.—Hab. Jamaica (*Macf.*), gregarious in dry savannahs; Antigua!, *Wullschl.*; [Haiti, etc.].

3. CEREUS, *Haw.*

Calyx-tube produced beyond the ovary, scaly with adnate exterior sepals. *Stamens* multiserial upon the corolla-tube. *Embryo* usually curved : cotyledons incumbent to the hilum : albumen nearly wanting.—Stem *costate*; flowers *lateral.*

Sect. 1. Pilocereus.—*Calyx-tube shortly produced beyond the ovary. Style exserted.*—Stem erect, columnar with vertical ridges: areolæ woolly or at length glabrate.

3. **C. Swartzii,** *Gr.* "Stem high, nearly simple, blunt at the woolly summit: *ridges* 10, prominent, bluntish, separated by a deep sinus: *areolæ* 10–8-*spinose:* spines stout, spreading, interior shorter, those of the stem-summit concealed within the wool; flowers pale-red."—Cactus peruvianus, *Sw. Obs.* (*exclus. syn. Sl. et Linn.*). Cereus, *Macf.*—Cactus fimbriatus, *Desc.* (*Fl.* 6. *t.* 419), though presenting only 8 ridges, is probably the same, and shows the exserted style of *Pilocereus,* not mentioned by Swartz.—"Stem 6′–20′ high, 2″–5″ thick: spines nearly 1″ long; flowers 2″ long: exterior sepals subimbricate."—Hab. Jamaica (*Sw., Macf.*), in the dry, southern savannahs.

4. **C. Curtisii,** *Lk. Ott.* "Stem blunt at the summit: *ridges* 8–10, prominent, acute: areolæ convex, woolly: *spines* stout, *equalling the wool, exterior* 8–10, *central* 4, superior minute; flowers rosy-variegated: calyx-tube green, naked below."—*Bot. Mag. t.* 3125; *Pfeiff. Cact. t.* 11.—C. Royeni, *Hook.* (*non alior.*).—Longest spines nearly 1″: flowers 2″ long.—Hab. Grenada (*Hook.*).

Sect. 2. Eucereus.—*Calyx-tube long, produced beyond the ovary. Style nearly as long as the included stamens.*

* *Stem erect, columnar.*

5. **C. eriophorus,** *Lk. Ott.* Stem high, jointed, tapering at the summit, at length subcylindrical: ridges 8–10, blunt-convex: areolæ devoid of wool, 9–12-spinose: spines needle-shaped, 8–10 radial spreading, 1–2 central longer; flowers large, nocturnal, white: *calyx-tube covered with long wool.—Pfeiff. Cact. t.* 22.—Cactus peruvianus jamaicensis, *L.* (*ex syn. Sl. et P. Br.*). Cereus repandus, *Macf.* (*non Haw.*).—Stem 20′ high: joints 2′–4′ distant: spines 5‴–2‴, on the calyx-tube 8‴ long; flowers infundibular, 9″–6″ long.—Hab. Jamaica!, *Wullschl., Al.,* in the southern savannahs, Davidson Hills near Falmouth; [Cuba].

6. **C. repandus,** *Haw.* "Stem tapering at the summit, subcylindrical: ridges 8–10, depressed, separated by narrow furrows: areolæ devoid of wool, 9–10-spinose: spines needle-shaped, short, 7–8 radial, 2 central; flowers large, white: *calyx-tube devoid of wool.*"—*DC. Pl. Grass. t.* 161; *Tuss. Fl.* 2. *t.* 33.—Cactus, *L.* (*ex syn. Sl.*). C. Royeni, *DC.* C. peruvianus, *Tuss.*—The occurrence of this species in Jamaica rests on a wood-specimen preserved in the Economic Museum of Kew, and upon Sloane's authority, who however does not mention sufficiently the character, but distinguishes this from the preceding by lower growth and a yellow (not red) berry: both are indeed quite similar in the flower.—Hab. Jamaica, with the preceding (*Sl.*).

** *Branches scandent, radicant.*

7. **C. triangularis,** *Haw.* "*Branches triquetrous:* one sinus nearly flat, two deep: areolæ 4–2-spinulose: spinules very short, inferior longest; flowers large, nocturnal, white."—*Desc. Fl.* 7. *t.* 519.—Cactus, *L.*—"Spinules 1‴–2‴ long; flowers, when expanded, 8″ diam."—Hab. Jamaica (*Macf.*), common on rocks; [Mexico].

8. **C. grandiflorus,** *Haw.* "*Branches slightly* 5–7-*angular:* areolæ 5–12-spinulose: spinules short, nearly equalling the wool; flowers large, nocturnal, white."—*Desc. Fl.* 1. *t.* 65.—Cactus, *L.*—"Spinules 2‴–3‴ long; flowers fragrant, when expanded 6″–8″ diam."—Hab. Jamaica (*Macf.*), on rocks and decayed trees; Caribbean Islands.

9. **C. flagelliformis,** *Mill.* "*Branches cylindrical:* tubercles 10–12-seriate, 11–16-spinulose: spinules short, radial 8–12, central somewhat longer, 3–4; *flowers infundibular, crimson.*"—*Tuss. Fl.* 2. *t.* 28; *Desc. Fl.* 1. *t.* 67.—Cactus, *L.*—"Spinules 2‴–3‴, flowers 2½″–3″ long."—Hab. Jamaica (*Sl., Sw.*), on trees, along the coast; [trop. America].

4. RHIPSALIS, *G.*

Calyx-tube short, equalling the ovary, naked: limb small, expanded. *Berry* crowned with the marcescent flower. *Seeds* obovoid: embryo curved, with minute cotyledons: albumen scanty.—Stem *and* branches *cylindrical or foliaceous-winged, unarmed;* flowers *in the crenatures of the foliaceous, or lateral on the cylindrical branches.*

10. **R. Swartziana,** *Pfeiff.* Stem simply branched, winged above: summit resembling the branches: *branches* alternate, *flat*, oblong or oblong-linear, *remotely crenate*, tapering at the stipitate, jointed base; flowers minute, whitish; berry nearly black.—*Regensb. Fl.* 1853, *t.* 6. *f.* 18.—Cactus alatus, *Sw.*—Variable in the length of the winged part of the stem, the form of the branches, and their margins regularly crenate or subserrate. Stem 1′–2′ high, cylindrical below: branches 6″–12″ long; flowers 4‴ diam.; berry ovoid-globose, 4‴ long: seeds numerous, smooth, obovoid-globose, pointed at the base: embryo annular, with obsolete albumen.—HAB. Jamaica!, *Wullschl.*, on trees.

11. **R. Cassytha,** *G.* Stem and whorled or opposite *branches cylindrical*, jointed, pendulous: branchlets blunt at each end: areolæ distant, glabrescent; flowers minute, whitish; berry whitish.—*Tuss. Fl.* 3. *t.* 22.—Cactus parasiticus, *L.* (*ex syn. Sl.*). C. pendulus, *Sw.*—1′–6′ long: ultimate branchlets about 3″ long; flowers 2‴ diam.; berry ovoid-globose, 2‴–3‴ long.—HAB. Jamaica!, *Wullschl.*, on trees; Trinidad!, *Cr.*; [Cuba! and Mexico to Guiana].

7. OPUNTIA, *T.*

Calyx-tube equalling the ovary, scaly with caducous, exterior sepals. *Berry* naked. *Seeds* compressed: cotyledons curved around the albumen.—Stem *or* branches *jointed, tubercled.*

Sect. 1. PLATYOPUNTIA.—*Stamens exceeded by the corolla, nearly equalling the style. Embryo spirally convolute around scanty albumen.*—Stem-pieces or branches flat: tubercles bearing bristles, down, and usually spines in the axils of abortive leaves: flowers lateral.

12. **O. Tuna,** *Mill.* Erect, proliferous-jointed; stem-pieces oval: *areolæ distant*, 5–4 (6–1)-*spinose: spines* stout, unequal, spreading, *flavescent;* flowers yellow; calyx-tube obovate.—*Tuss. Fl.* 2. *t.* 31 *Desc. Fl.* 7. *t.* 516.—Cactus, *L.*—3′–4′ high; stem-pieces 4″–8″, longest spines 1″–1½″ long; flowers 3″–4″ diam.—HAB. Jamaica (*Macf.*), common on dry soil; Antigua!, *Wullschl.*

13. **O. Ficus-indica,** *Mill.* Erect, proliferous-jointed; stem-pieces thickish, obovate: *areolæ* distant, *not spinose*, (rarely with minute, solitary spines); *flowers yellow;* calyx-tube clavate.—*Tuss. Fl.* 2. *t.* 34.—Cactus, *L.* C. Pseudotuna, *Macf.* (*non Salm.*).—4′–6′ high; stem-pieces 4″–18″ long; flowers 3″–4″ diam.—HAB. Jamaica (*Macf.*), near Kingston; [trop. America].

14. **O. triacantha,** *Haw.* Erect, proliferous-jointed; stem-pieces oval-oblong: *areolæ* -3(4–1)-*spinose: spines* stiff, divaricate-spreading, or subreflexed, *whitish, superior* long, often *twice as long as the* 2 *inferior ones;* flowers reddish; calyx-tube broadly turbinate.—Cactus, *W.*—Stem-pieces horrid with spines: spines much thinner than in *O. Tuna*, longest 1¼″–2″ long; flowers 1″ diam.—HAB. Antigua!, *Wullschl.*, near the coast of Gracebay.

15. **O. spinosissima,** *Mill.* "*Stem columnar*, continuous, densely spinose, with pendulous jointed branches; branch-pieces elongated, oblong-linear: *areolæ approximate*, 3–4-*spinose:* spines long, rigid, needle-shaped; flowers reddish-orange" (*Macf.*)—*Sl. t.* 224. *f.* 2.—Cactus, *W.*—"Stem thick, branched 4′–5′ from the ground; branch-pieces about 1′ long; longest spines upwards of 2″ long; flowers 1″ diam."—HAB. Jamaica (*Macf.*), common in the dry, southern savannahs.

Sect. 2. NOPALEA.—*Stamens exserted, shorter than the style.*—Habit of *Platyopuntia*, but tubercles usually unarmed with spines.

16. **O. coccinellifera,** *Mill.* Erect, proliferous-jointed; stem-pieces obovate-oblong: *areolæ* very distant, *at length unarmed*, bearing short wool and bristles; *flowers crimson;* calyx-tube obovate.—*Desc. Fl.* 7. *t.* 516.—Cactus, *L.*—The areolæ at the summit of a young specimen bear single, recurved, small spines; areolæ at length 1″ distant from each other; flowers not expanded, 1½″ diam.; ovary 1½″–1″, stamens 12‴–15‴ long.—HAB. Jamaica!, *Wullschl.*, common on dry soil; [Mexico].

8. PEIRESCIA, *Plum.*

Calyx-tube equalling the ovary, usually leafy by the exterior sepals. *Berry* naked at the

umbilicated top. "*Cotyledons* foliaceous."—Shrubs *or* trees *with developed leaves:* areolæ *spiny;* flowers *terminal, in racemiform cymes or solitary.*

17. **P. aculeata,** *Mill.* Stem armed with fascicled, straight spines: branches trailing; leaves oblong-elliptical: 2–1, short, recurved spines at the downy base of the petiole; flowers in a lax cyme, white; berry leafy with narrow sepals.—*Desc. Fl.* 4. *t.* 294.—Cactus Pereskia, *L.*—About 15′ high; leaves 1½″–1″, petiolar spines 1‴–3‴ long; petals oval.—HAB. Jamaica (*Macf.*); Antigua!, *Wullschl.*

P. portulacifolia, Haw., with solitary, purple flowers, and the berry devoid of exterior sepals, is cultivated in Jamaica (*Macf.*).

LXXXV. CRASSULACEÆ.

Stamens definite, usually perigynous. *Carpels* distinct, or connected at the base, usually furnished with hypogynous scales. *Albumen* thin, or none.—Leaves *succulent, exstipulate.*

1*. BRYOPHYLLUM, *Salisb.*

Calyx campanulate, inflated, shortly 4-fid. *Corolla* sympetalous, clavate above a broader, prismatical base, shortly 4-fid. *Stamens* 8, inserted into the corolla-base. *Carpids* 4.—A succulent, suffrutescent herb; leaves *opposite, impari-pinnate, or simple:* leaflets 1–5, *ovate, crenate;* flowers *reddish-yellow, in a terminal panicle.*

1*. **B. calycinum,** *Salisb.*—*Bot. Mag. t.* 1409.—Calyx 1½″–1″ long, shortly exceeded by the corolla.—HAB. Naturalized in Jamaica!, *March;* Antigua!, *Wullschl.;* S. Vincent!, *Guild.;* [an Asiatic weed, ranging now from Mexico! to Guiana!].

LXXXVI. SAXIFRAGEÆ.

Stamens usually definite and perigynous. *Carpels* usually 2, connected, mostly many-ovulate: styles distinct, rarely combined. *Pericarp* capsular. *Seeds* minute: embryo small, usually enclosed within copious endosperm.—Leaves *exstipulate, or if opposite, often with interpetiolar stipules.*

1. WEINMANNIA, *L.*

Calyx 4–5-partite. *Petals* 4–5. *Stamens* 8–10, inserted into the calyx-base outside of the hypogynous disc. *Ovary* 2-celled: styles diverging. *Capsule* birostrate: seeds several, or ∞, hairy: embryo axile.—Woody plants; leaves *usually impari-pinnate with a winged rhachis, opposite:* intrapetiolar stipules *deciduous;* racemes *with the small flowers usually fascicled.*

1. **W. pinnata,** *L.* Branchlets hirsute with short down; *leaflets* 3–7-jugal, elliptical-oblong, bluntish, serrate above the base, hispid on the midrib beneath, or *glabrescent:* rhachis-wings spathulate: stipules broadly ovate-roundish; flowers fascicled-racemose; stamens 8, exserted; capsule ovoid, twice as long as the styles: seeds several, ovoid, long-comose.—*Lam. Ill. t.* 313. *f.* 1.—W. glabra, *L. fil.* W. alpestris, *Macf.*—A tree; leaflets 4‴–8‴ long; flowers white.—HAB. Jamaica!, *Pd.*, common on the summits of the Blue Mountains; Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba!, French islands!; Mexico to Guiana!].

2. **W. hirta,** *Sw.* Branchlets villous-hirsute; *leaflets* 3–4-jugal, elliptical, bluntish, serrate above the base, *pilose-pubescent* chiefly beneath: rhachis-wings rhomboid-obovate: stipules reniform; flowers fascicled-racemose; stamens 8, exserted; "capsule oblong, with short styles."—A tree or shrub; leaflets 6‴–10‴ long.—HAB. Jamaica!, *Al.*, rare in the forests near the summit of the Blue Mountains.

LXXXVII. BEGONIACEÆ.

Flowers unisexual. *Sepals* coloured, distinct. *Stamens* indefinite, central. *Ovary* inferior, 3(–2–5)-celled: styles connected below, with papillose stigmas. *Pericarp* capsular.

Seeds very minute, indefinite: embryo exalbuminous.—Leaves *distichous, oblique, stipulate*; flowers *in axillary, dichotomous cymes*.

1. BEGONIA, *L.*

Capsule dehiscent along the lateral facets of the cells: placentas central.

Sect. 1. Begoniastrum.—*Sepals* ♂ 4, *biseriate*, ♀ 5. *Stigmas* 3, *bipartite or bifid, twisted, with a papillose, continuous band. Capsule unequally* 3-*winged: placentas bilamellate.*—Succulent herbs, or shrubs.

1. **B. acuminata,** *Dryand.* Stem suffrutescent, erect, glabrous; *leaves semicordate-oblong, acuminate,* unequally sinuate-dentate, *pilose on the margin, the nerves beneath, and the petiole;* cymes few-flowered; *capsule-wings* 2, *shortly deltoid,* the third oblong, blunt. —*Sl. t.* 127. *f.* 1. 2. *Bot. Mag. t.* 4025.—3′–4′ high; leaves 3″–4″ long, 1″–1½″ broad; flowers white: larger ♂ sepals broadly ovate, 8‴ long; longer capsule-wing 6‴ long.—Hab. Jamaica!, *March.*

2. **B. acutifolia,** *Jacq., Sw.* Stem suffrutescent, suberect, glabrous; *leaves semicordate-oblong, acuminate,* angular-repand, denticulate, subciliate, *glabrous on both sides and on the petiole;* cymes few-flowered; *capsule-wings* 2, *narrow, rounded,* the third ovate-oblong, obtusate.—B. jamaicensis, *A. DC.!*—2′–4′ high; leaves 2″–3½″ long, ¾″–1½″ broad; flowers white and red: larger ♂ sepals oval, 6‴ long; longer capsule-wing 6‴–8‴ long, narrow ones 1‴ broad.—Hab. Jamaica!, *Al., Bancr., Wullschl.*, among mountain-shrubs, S. Anns, Manchester; [Portorico].

3. **B. nitida,** *Dryand.* Stem suffrutescent, erect, glabrous; *leaves* unequally *cordate-ovate, pointed,* repand, subentire or obsoletely crenate, wholly *glabrous* with the petioles; cymes spreading-dichotomous; ♂ *sepals unequal,* 2 *much larger;* "third capsule-wing broadly ovate."—*Bot. Mag. t.* 4046. *Desc. Fl.* 5. *t.* 344.—4′–5′ high; leaves 5″–4″ long, 2½″–2″ broad; flowers rosy: larger ♂ sepals oval-roundish, 6‴–8‴ long, 6‴ broad.—Hab. Jamaica!, *March,* in the mountains.

4. **B. dominicalis,** *A. DC.* (*in lit.*). Stem glabrous; *leaves semicordate-ovate, pointed,* sinuate-repand, or obsoletely serrate, wholly *glabrous* with the petioles; cymes spreading-dichotomous; ♂ *sepals subequal;* "capsule-wings 2 narrow, rounded, the third deltoid."—*Bot. Mag. t.* 5047.—B. Wageneriana, *Hook.* (*exclus. syn. Kl.*).—3′–2′ high; leaves 6″–4″ long, 3″–2″ broad; flowers white: ♂ sepals ovate, bluntish, 4‴ long.—Hab. Dominica (*A. DC.*); [Guadeloupe!].

5. **B. domingensis,** *A. DC.* Stem glabrous; *leaves* unequally *cordate-ovate, pointed,* repand-undulate, *subentire,* glabrous above, *rusty-pilose on the nerves beneath, and chiefly on the petioles;* cymes long-peduncled, many-flowered, contracted; flowers small: ♂ sepals subequal; capsule . . .—Leaves 6″–5″ long, 4″–3″ broad; peduncles often 1′ long: cymes 2″–3″ diam.; broader ♂ sepals roundish, 2‴–3‴ diam.—Hab. Dominica!, *Imr.*; [Haiti].

6. **B. rotundifolia,** *Dryand.* Stem short, glabrous; *leaves obliquely reniform-roundish,* slightly cordate at the base, angular-crenate, *rusty-pilose on the nerves beneath, and on the petioles;* cymes long-peduncled, many-flowered; capsule . . .—*Plum. Ed. Burm. t.* 45. —Leaves 2″ long, 3″–4″ broad; larger ♂ sepals oval, 6‴–5‴ long.—Hab. S. Vincent!, *Guild.*

7. **B. martinicensis,** *A. DC.* "Stem suffrutescent, glabrous; *leaves semicordate-ovate, pointed, crenulate,* puberulous on the nerves beneath: petiole villous, at length glabrate; capsule acute at the base, with the larger wing pointed."—Hab. S. Vincent (*A. DC.*); [Martinique].

8. **B. humilis,** *Dryand.* *Annual;* stem erect, hairy or glabrescent; *leaves semicordate-oblong, acuminate,* unequally ciliate-serrate, with scattered hairs above and on the petiole, glabrous beneath; cymes few-flowered; *capsule-wings rounded, the third broader.* —*Bonpl. Malm. t.* 62.—½′–1½′ high; leaves 1½″ long, 8‴ broad; 2 capsule-wings 1½‴, the third 3‴ broad.—Hab. Trinidad!, *Cr.*

9. **B. glandulifera,** *Gr.* (*n. sp.*). Perennial, *stemless; leaves semicordate-ovate,*

pointleted, ciliate-denticulate, with scattered hairs above and on the nerves beneath: petiole glandular-hairy, as long as the leaf; *peduncles* long, scapiform, *glandular-hairy*, especially on the branches of the corymbiform cyme; 2 capsule-wings deltoid, the third twice as long, obtusate-oblong.—Rhizoma creeping, scaly: stipular scales oblong, cuspidate; leaves 6″–4″ long, 4″–3″ broad; peduncles 1′ long: dichotomous branches 3–4, few-flowered: bracts oblong or elliptical, ciliate, cuspidate; 2 larger ♂ sepals ovate, blunt, 4‴ long, 2 interior oblong-lanceolate, half as long; stamens many, free: anthers shortly obovate-oblong, as long as the filament, bluntly produced beyond the cells; ♀ sepals 5, oval, 3‴ long: style 3-partite: stigmas bifid, with short, contiguous, papillose bands; capsule rounded at the base: placentas thinly bilamellate: wings 4‴ broad, two 3‴–4‴ long, the third straightish on the upper margin, 6‴–9‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*, in moist ravines, Maraval.

10. **B. Purdieana,** *A. DC.* "*Stemless, leaves obliquely cordate-ovate, pointed*, irregularly crenate, with scattered hairs above and hairy on the nerves beneath; peduncles scapiform, slender, few-flowered; *capsule* blunt at the base: *larger wing long, ovate.*"—The diagnosis is not sufficient to distinguish this from the preceding: but my species is very peculiar by the dense glandular covering of the pedicels, not mentioned, and therefore probably not existing in *A. DC.'s* plant.—HAB. Jamaica (*A. DC.*).

Sect. 2. DONALDIA.—*Sepals* ♂ *2*, ♀ *5. Styles and capsules of* Begoniastrum.—Shrubs; leaves short-petioled: stipules and bracts persistent.

11. **B. ulmifolia,** *W.* Stem erect, angular, with scattered hairs; *leaves* oblong, pointed, slightly oblique at the base, biserrate, *pilose on both sides*: stipules oblong-lanceolate, exceeding the petiole; "2 capsule-wings narrow, the third deltoid."—*Lk. and Otto, Ic.* 1. *t.* 38. —2′–4′ high; leaves 2″ (–5″), stipules 6‴ long.—HAB. Trinidad!, *Cr.*; [Venezuela].

Sect. 3. GIREOUDIA.—*Sepals in both sexes* 2. *Stigmas* 3, *shortly bifid, with a semilunar, contiguous, papillose band. Capsule unequally 3-winged: placentas bilamellate.*—Suffrutescent, fleshy herbs; leaves large, long-petioled.

12. **B. macrophylla,** *Dryand.* "Stem short: stipules large, deltoid; *leaves* very large, *unequally and deeply cordate, roundish*, sinuate-dentate, ciliate, hairy on the nerves beneath: petiole terete, scaly; cymes large, long-peduncled; capsule-wings obtusate-roundish, the third much larger."—"Leaves above 1′, stipules 1½″, sepals 3‴–4‴ diam."—HAB. Jamaica (*Sw.*), in the mountains; [French islands].

Sect. 4. WAGENERIA.—*Sepals of* Begoniastrum. *Stigmas* 3, *bipartite, twisted, wholly papillose. Capsule-wing of the third cell spreading, the two others reduced: placentas entire.*—Suffrutescent, often scandent herbs; cymes large, divaricate.

13. **B. scandens,** *Sw. Scandent, radicant*, glabrous; leaves ovate or ovate-roundish, subequal, slightly emarginate at the base, irregularly dentate; cymes peduncled, effuse; *third capsule-wing ovate-oblong, blunt*, spreading, the two others shortly ascending-deltoid, bluntish.—*Aubl. t.* 349: bad.—B. glabra, *Aubl.*—2′–6′ long; leaves 3″–6″ long; sepals white, larger in ♂, ovate, 2‴ long; third capsule-wing 8‴ long, and as broad, the two others 2‴ broad above.—HAB. Jamaica!, all coll., on trees and in ravines, with the large cymes pendulous; Dominica!, *Imr.*; Trinidad!, *Cr.*; [Guiana, equat. Brazil, Peru].

LXXXVIII. ARALIACEÆ.

Calyx-limb reduced. *Stamens* epigynous, mostly definite. *Ovary* compound: cells with a single, pendulous ovule: styles distinct or combined, usually surrounded at the base by an epigynous disc. *Pericarp* fleshy, with cartilaginous pyrenæ. *Embryo* small, in the top of the endosperm.—Leaves sheathing at the base of the petiole; flowers mostly umbellate.

An aromatic or balsamic principle is extracted, chiefly from the berries.

1. HEDERA, *L.*

Calyx-limb produced beyond the ovary. *Petals* 5, valvate. *Stamens* as many. *Disc* obsolete. *Styles* combined to the top. *Berry* 5-pyrenous.—The West Indian species are

trees, *with simple, entire, leathery leaves ;* umbels *simple ;* pedicels *jointed at the thickish base :* involucre *minute.*

I exclude those tropical species which have distinct styles, the calyx not produced, and a large disc, and I refer these to *Sciadophyllum.*—In the common Ivy the cylindrical embryo is about half as long as the fleshy, ruminate albumen, the laminar inner projections of the testa being analogous to those of *Anonaceæ :* such I do, however, not find in the still immature seed of *H. pendula.*

1. **H. pendula,** *Sw.* Leaves lanceolate-oblong or elliptical, glabrous ; *peduncles much longer than the petioles,* often exceeding the leaves, pendulous ; calyx-limb subentire : tube turbinate ; *petals equalling the stamens.—Sw. Ic. t.* 9.—A large or low tree ; leaves variable, 4″–3″ long, usually long-petioled ; petals 1‴ long.—HAB. Jamaica !, *Wils.*, in the mountains, rare at 3000′ alt., *e.g.* S. John Crow Hill.

2. **H. nutans,** *Sw.* Leaves elliptical, glabrous ; *peduncles nearly as long as the petioles,* stiff : exterior pedicels nodding ; calyx-limb subentire : tube hemispherical ; *stamens exserted,* half as long again as the petals.—A large forest tree (*Al.*), or dwarfish (*Sw.*), not to be distinguished from the preceding by its foliage, but calyx twice as broad (2‴–3‴) and petals 1½‴ long.—HAB. Jamaica !, *Macf., M'Nab, Al.*, on the peak of the Blue Mountains.

2. SCIADOPHYLLUM, *P. Br.*

Flowers polygamous. *Petals* 5 (4–6), valvate or coherent. *Stamens* as many. *Styles* in ♀ 5–10 (4–12), diverging above the epigynous disc, in ♂ rudimentary and combined. *Berry* globose, 5–10 (or 4–12)-pyrenous.—Glabrous, low trees ; leaves *leathery, simple or digitate ;* umbels *or* flower-heads *arranged in corymbs or racemes ;* involucre *minute.*

Jacquin referred two simple-leaved species to *Aralia,* which is distinguished by imbricated petals ; Swartz, though combining them with *Hedera,* recognized their affinity with *Sciadophyllum Brownei,* which is their true congener.

3. **S. Jacquini,** *Gr. Leaves simple,* elliptical, repand-undulate, or obsoletely serrate, reticulated-veiny : primary veins equal ; *umbels in terminal, simple corymbs :* peduncles 2–1-bracteolate about the middle ; calyx-limb 5(–4–6)-dentate ; petals and styles 5 (4–6) ; berry 6(–5)-celled, furrowed.—*Jacq. H. Schœnbr. t.* 51 : the furrows in the white berry are neglected in this figure.—Aralia arborea, *Jacq.* Hedera, *Sw.*—20′–12′ high ; leaves 6″–4″ (–1½″) long : petiole of variable length ; peduncles 1″–2″, pedicels 3‴–4‴ long.—HAB. Jamaica !, all coll., common in the lower mountains ; [Cuba !, Portorico !].

4. **S. capitatum,** *Gr. Leaves simple,* ovate, elliptical, or elliptical-oblong, quite entire, long-petioled, veiny : basilar veins longer ; *flower-heads in* compound (or simple), terminal *racemes :* peduncles naked, scaly-puberulous ; calyx-limb truncate, with minute, distant teeth ; petals 4–5 : styles 8–10 ; berry 8–10-celled, smooth.—*Jacq. Amer. Pict. t.* 91. *Sm. Ic. Pict. t.* 4.—Aralia, *Jacq.* Hedera, *Sm.* H. multiflora, *DC.*—10′–12′ high ; leaves very variable, 4″–6″ long ; peduncles 3‴–4‴ long : flowers sessile ; berry brown.—HAB. Jamaica !, all coll., common in woods ; Antigua !, *Wullschl.*, Dominica !, *Imr. ;* [Martinique !, *Sieb. Mart.* 94 ; Venezuela !, New Granada !, Brazil !].

5. **S. Brownei,** *Spreng. Leaves digitate :* leaflets 10–6, oblong, glabrate, quite entire, long-petiolulated : sheath of the long petiole produced into an axillary ligule ; *umbels in elongated, nodding,* puberulous, terminal and axillary *racemes :* pedicels as long as the naked peduncles ; calyx-limb subentire ; *petals* 5, *cohering, calyptriform ;* styles 5 ; berry 5-celled, deeply furrowed.—*Br. Jam. t.* 19. *f.* 1.—Hedera Sciadophyllum, *Sw.*—Stem nearly simple, 8′–12′ high ; petioles 15″–5″, petiolules 3″–1″, leaflets 10″–4″ long, the latter rounded or subcordate at the base ; racemes usually 1′ long : peduncles 2‴–3‴ long.—HAB. Jamaica !, *Pd., Al., Wullschl.*, in mountain woods, S. Andrews, S. Anns, Manchester.

3. PANAX, *L.*

Flowers polygamous. *Petals* 5, valvate. *Stamens* as many. *Styles* 2 (–4), diverging above the epigynous disc. *Fruit* compressed, roundish-didymous : pyrenæ tardily distinct. —Woody plants ; leaves *usually compound ;* flowers *umbellate.*

6. **P. attenuatum,** *Sw.* Arboreous, *glabrous,* unarmed ; leaves digitate : *leaflets* 5–3

(–7), *ovate*, pointleted, callous on the repand, subentire or obsoletely crenate margin, long-petiolulated: sheath of the long petiole produced into an axillary ligule; umbels exinvolucrate, in compound, terminal, peduncled racemes; calyx-limb minutely 5-dentate; styles 2 (–" 3 "); fruit rather dry, roundish, contracted at the commissure.—A low tree; petioles 4″–8″, petiolules 2″–1″, leaflets 4″–3″, secondary peduncles 6‴–10‴, pedicels 2‴–3‴ long. —HAB. Dominica!, *Imr.*, in the mountains, S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Guadeloupe!; Venezuela!].

7. **P. Morototoni,** *Aubl.* Arboreous, unarmed; leaves digitate: *leaflets* 7–10, *oblong, tapering at the base, undulate*, subentire, glabrous above, *aurate-sericeous beneath;* umbels exinvolucrate, in a large, terminal panicle; calyx-limb subentire; styles 2; fruit pubescent, slightly fleshy, broader than long, flat on the sides.—*Aubl. t.* 360.—Petioles 1½′, petiolules 3″–2″, leaflets 8″–6″, pedicels 3‴ long.—HAB. Trinidad (*V.*); [Cuba; Guiana, equat. Brazil!].

LXXXIX. UMBELLIFERÆ.

Calyx-limb reduced. *Stamens* 5, epigynous. *Ovary* 2-celled: ovules single, pendulous: styles distinct, thickened at the base. *Carpids* indehiscent, at length distinct and pendulous from the filiform, central carpophore. *Seed* usually adhering to the pericarp. *Embryo* minute, in the top of endosperm.—Stem *mostly herbaceous;* leaves *sheathing at the base of the petiole;* flowers *in umbels, rarely in heads.*

This Order, known in the temperate zones for its aromatic, balsamic, bitter, nutritious, or narcotic properties, numbers only few, useless, tropical forms. The essential oil of the pericarp is contained in longitudinal canals (the vittæ). Of nutritious *Umbelliferæ, Arracacha esculenta* is cultivated in Jamaica, and several European pot-herbs have been naturalized in the mountains.

1. HYDROCOTYLE, *L.*

Calyx-limb obsolete. *Petals* ovate, acute. *Fruit* laterally compressed. *Carpids* devoid of vittæ: ribs filiform.—Aquatic, creeping herbs; leaves *peltate or cordate;* umbels *simple or proliferous;* flowers *white.*

1. **H. umbellata,** *L.* Glabrous, radicant; *leaves peltate* in the middle, orbicular, crenate; peduncles nearly as long as the petioles; *umbels expanded*, many-flowered; fruit didymous, emarginate at the base: *carpids* 5-*ribbed:* the intermediate lateral ribs conspicuous. —*Rich. in Ann. Sc. Phys.* 4. *t.* 52. *f.* 3.—Variable in size.—HAB. Jamaica!, all coll., common in rivulets; Trinidad!, *Cr.*, in swamps; [Massachussets to Guiana! and Peru; Galapagos!].

2. **H. asiatica,** *L.* Radicant; *leaves* fascicled, *cordate-roundish* or *cordate-ovate*, with a spreading sinus, crenate-dentate, dentate, or repand, glabrescent: petioles hairy, exceeding the short peduncles; *umbel contracted*, few–1-flowered; fruit reniform: *carpids* 9-*ribbed* and reticulate: 5 ribs prominent.

α. Leaves cordate-orbicular, crenate.—*Rich. l. c. t.* 55. *f.* 11.

β. repanda, Pers. Leaves cordate-ovate, dentate, or repand.—*Rich. l. c. t.* 57. *f.* 14.—H. brevipes, *DC. sec. Macf.*

HAB. Jamaica!, *Macf., Al., Wullschl., March* (*β*); Trinidad!, *Cr.* (*α*); [South Carolina! to Valdivia!; Abyssinia! to the Cape!; East Indies! to New Zealand!, and Pacific islands!].

2. SPANANTHE, *Jacq.*

Calyx-limb 5-dentate. *Petals* entire, subacute. *Fruit* flat-compressed from the back, contracted at the commissure. *Carpids* devoid of vittæ: ribs 5, delicate, immersed, 3 of which are dorsal.—An annual herb; leaves *undivided, superior opposite, glabrous, but penicillate-hairy below the serrate limb: sheath short, ciliate;* umbels *simple or proliferous, involucrate;* flowers white.

3. **S. paniculata,** *Jacq.*—*Jacq. Ic. Rar. t.* 350.—Stem 2′–3′ high, glabrous, contracted at the nodes; inferior leaves cordate-deltoid, superior ovate-lanceolate, acuminate.—HAB. Trinidad!, *Cr.*, at Maraval: [New Granada, Peru].

3. ERYNGIUM, *L.*

Calyx-limb 5-partite. *Petals* with an inflexed point. *Fruit* terete, tubercled, or scaly. *Carpids* devoid of vittæ and ribs: carpophore adnate.—Herbs, *often spinescent;* flowers *in paleiferous, involucrate heads.*

4. **E. fœtidum,** *L.* Biennial, dichotomously diffuse, glabrous; basilar leaves spathulate-lanceolate, sheathing at the base of the limb, serrate: serratures spinescent; involucral leaves much longer than the ovoid-oblong, shortly peduncled flower-heads, lanceolate, spinescent, usually deeply serrate, resembling the palmatipartite, superior leaves; paleæ entire. —*Sl. t.* 156. *f.* 3, 4.—A fetid herb, about 1′ high; flowers white.—HAB. Jamaica!, *Bancr.*, *March*, *M'Nab*, in pastures; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba and Panama! to New Granada! and Brazil!].

4*. PETROSELINUM, *Hoffm.*

Calyx-limb obsolete. *Petals* roundish, incurved, entire, with an inflexed point. *Fruit* laterally compressed. *Carpids* with 5 filiform ribs and single vittæ between them.—Glabrous herbs; leaf-segments *cuneate at the base;* umbels *compound: involucre few-, involucel many-leaved;* flowers *white.*

5*. **P. sativum,** *Hoffm.* Stem erect, angular; leaves 3-pinnatisect, shining: ultimate segments lanceolate or trifid.—Apium Petroselinum, *L.*—Biennial.—HAB. Naturalized in Jamaica (*Macf.*), in Coffee plantations; [introduced from southern Europe].

5. HELOSCIADIUM, *Kch.*

Petals expanded, ovate, entire. *Fruit* and *carpids* of *Petroselinum.*—Herbs; umbels *compound;* flowers *white.*

6. **H. leptophyllum,** *DC.* Annual, glabrous, stem slightly striate, erect or diffuse; leaves tri-ternatisect: segments capillary-linear; umbels subsessile, opposite to the leaves, 2–3-rayed: involucre and involucel none.—*Jacq. H. Vind. t.* 200.—$\frac{1}{2}'$–2′ high; leaf-segments 3‴–6‴, umbel-rays 6‴–9‴, pedicels 2‴–3‴ long; calyx-limb obsolete.—HAB. Jamaica!, *Macf.*, a weed in Coffee plantations; [Louisiana! to Buenos Ayres! and Valdivia!; Australia!].

6*. PASTINACA, *L.*

Petals roundish, involute. *Fruit* compressed from the back, with a thickened margin. *Carpids* with single, filiform vittæ between the 5 delicate ribs, 3 of which are distant from the margin of the commissure.—Biennial *or* perennial herbs; leaves *pinnatisect;* umbels *compound:* flowers *yellow.*

7*. **P. sativa,** *L.* Biennial; stem sulcate; leaf-segments ovate-oblong, blunt, crenate-serrate, pubescent beneath, terminal 3-lobed; involucre 0; calyx-limb obsolete; fruit oval: commissure 2-vittate.—HAB. Naturalized in Jamaica (*Macf.*), in Coffee plantations; [introduced from Europe].

7*. DAUCUS, *L.*

Calyx-limb 5-dentate. *Petals* emarginate, inflexed, exterior often radiant. *Fruit* slightly compressed from the back. *Carpids* with single vittæ behind the 4, aculeate, winged, secondary ribs: prickles 1-seriate: 5 primary ribs setose.—Herbs, *usually biennial;* leaves 2–3-*pinnatisect;* umbels *compound, involucred.*

8*. **D. Carota,** *L.* Hispid (or glabrate); leaf-segments pinnatifid: lobes oblong-linear, cuspidate; involucre-leaves pinnatifid, nearly as long as the umbel; umbels at length contracted; flowers white (the central often purple); prickles about as long as the diameter of the oval-oblong fruit.—HAB. Naturalized in Jamaica!, *Don,* in Coffee plantations; [introduced from Europe].

8. ARRACACHA, *Bancr.*

"*Calyx-limb* obsolete. *Petals* ovate or lanceolate, entire, with an inflexed point. *Fruit*

ovate-oblong, laterally subcompressed. *Carpids* with 5, equal, entire ribs. *Albumen* sulcate on the commissural side.—Perennial herbs: *roots tuberose; leaves* 1–3-*pinnatisect; umbels compound: flowers whitish.*"

9. **A. esculenta,** *DC.* "Leaves pinnatisect: inferior segments divided into ovate, acuminate, coarsely serrate lobes; involucre 0; carpid-ribs obtuse."—HAB. Trinidad!; [New Granada!, Peru!].

XC. BALANOPHOREÆ.

Flowers unisexual, apetalous. *Calyx* valvate or 0. *Ovary* inferior or naked, simple: ovule mostly single and naked: styles 2–1. *Embryo* small, usually undivided, enclosed within copious endosperm.—Aphyllous herbs, *parasitical on roots, devoid of chlorophyll; stems fleshy, simple from a branched or tuberose rhizoma; flowers collected on a terminal spadix, often separated by filiform scales.*

The affinity of *Balanophoreæ* with *Gunnera*, and through *Hippuris* with *Halorageæ*, has been proved by J. Hooker. Hence they are inserted here, as the latter Order, not represented in the West Indies, seems rather more connected with *Umbelliferæ* than with *Onagrarieæ*, which is their usual place in the system.

1. HELOSIS, *Rich.*

Spadix ovoid or globose, androgynous, covered with peltate, hexagonal bracts. ♂ *Calyx* tubular, 3-lobed: column 3-androus, tribranched below the synantherous, 6–12-celled body of the anthers, inserted into the calyx-throat: anthers introrse; ♀ calyx obsolete. *Ovary* simple: ovule 1, "erect" (*Hoffmeist.*), naked: styles 2. *Seed* adhering to the crustaceous pericarp.—Rhizoma *branched: stems inserted to its knobs, naked, usually with an annular sheath.*

1. **H. guianensis,** *Rich.* Stems surrounded at the base by a 3–4-lobed (or 5–7-lobed), involucral sheath.—*Mém. Mus.* 8. *t.* 20.—Cynomorium cayennense, *Sw.*—Stems 2″–6″ (1″–12″) high; spadix ovoid-oblong, enclosed (before the development of the stem) by the sheath: ♂ flowers serotinous.—HAB. Trinidad!, *Pd., Cr.*, in the mountains of Tamana, Arena; [Guiana, Brazil!].

2. PHYLLOCORYNE, *J. Hook.*

Spadix oblong-cylindrical: bracts imbricate, deciduous. *Flowers* of *Helosis*, but column tri-branched below the globose, 6-celled body of the synantherous anthers, which opens at the top.—Rhizoma *thick, branched; stem covered with closing,* 4–6-*stichous scales, which pass into the bracts, tubercled above with rudimentary flowers.*

2. **P. jamaicensis,** *J. Hook.*—*J. Hook. Balanophor. in Linn. Transact.* 1855, *t.* 11; *Desc. Fl.* 2. *t.* 26.—Cynomorium, *Sw.* C. coccineum, *Desc.*—Stem red, a few inches high, or spithameous; spadix 1″–2½″ long; scales and bracts ovate-deltoid.—HAB. Jamaica!, *Al., Pd., M'Nab, Wullschl.*, in mountain woods; [eastern Cuba!].

XCI. OLACINEÆ.

Calyx persistent. *Corolla* valvate, often villous inside. *Stamens* definite, hypogynous or epipetalous. *Ovary* simple, mostly superior, usually unilocular or divided below by tissue between the ovules: ovules few (–single), naked, hanging from the free central placenta or from the summit of the cells. *Drupe* 1-seeded. *Embryo* mostly minute, in the top of the endosperm.—Woody plants; leaves *alternate, entire, glabrous, exstipulate.*

The drupes of *Ximenia* are eatable.

1. XIMENIA, *L.*

Calyx minute, not enlarged. *Petals* 4 (–5), distinct. *Stamens* twice as many, all fertile,

hypogynous. *Ovary* superior, 4(–3–5)-celled below: ovules as many as there are cells, hanging from the central placenta.—Flowers *in axillary racemes, corymbs, or clusters.*

1. **X. americana,** *L.* Leaves elliptical; flowers racemose or corymbose; petals 4; drupe oval or oblong.—*Jacq. Amer. Pict. t.* 107; *Tuss. Fl.* 3. *t.* 30; *Desc. Fl.* 2. *t.* 132.—X. multiflora, *Jacq.* X. aculeata, *Tuss.* X. montana, *Macf.* X. inermis, *L.* X. senegalensis, *Rich.*—A tree, usually spiny; leaves mucronate or blunt; petals oblong, white, odorous, internally villous.—HAB. Jamaica!, *Macf.*; S. Vincent!, *Guild.*; [Florida! to Buenos Ayres!; trop. Africa!; East Indies].

2. HEISTERIA, *L.*

Calyx at length much enlarged, spreading. *Petals* 5. *Stamens* 10, all fertile. *Ovary* of *Ximenia.*—Trees; flowers *fascicled, clustered, or single in the axils.*

2. **H. coccinea,** *Jacq.* Leaves oblong, acute; flowers single, pedicellate; calyx at length red, obsoletely 5-lobed: lobes rounded; petals distinct.—*Jacq. Amer. Pict. t.* 122.—Calyx 1″ diam. around the oblong drupe; flowers white.—HAB. Dominica!, *Imr.*; [Martinique].

3. SCHŒPFIA, *Schreb.*

Calyx adnate: limb truncate, obsolete. *Corolla* sympetalous, 5(–4–6)-fid. *Stamens* epipetalous, opposite to the corolla-lobes. *Ovary* semi-inferior, 3-celled from copious tissue: ovules 3, hanging from the central placenta, filling up the cavities.—Shrubs; flowers *usually clustered in the axils: involucel* 3–4-*fid.*

3. **S. arborescens,** *R. S.* Leaves ovate-oblong, bluntly acuminate, rounded above the contracted base; corolla-tube campanulate: *lobes* thrice shorter, reflexed, ovate, *blunt, internally pubescent;* drupe ovoid (5‴ long).—Codonium, *V.* S. americana, *W.*—Leaves 2″–3½″ long, shining.—HAB. Jamaica!, *Al.*; Antigua!, *Nichols.*, *Wullschl.*, Montserrat, Dominica!, *Imr.*; [S. Croix, Guadeloupe!].

4. **S. Marchii,** *Gr.* (*n. sp.*). Leaves elliptical, pointed or bluntish, acute at the base; corolla-tube campanulate: *lobes* thrice shorter, reflexed, deltoid, *pointed, internally glabrous;* drupe ovoid (3‴ long).—Very similar to the preceding, but distinguished by its smaller fruit. Leaves 1½″–2″ long; clusters equalling the petiole: pedicels fascicled, as long as the glomerate (3–1) flowers; corolla 1⅓‴ long, thrice as long as the calyx; anthers ovoid-globose, emarginate, subsessile at the throat, included, covering (as in the preceding) a small tuft of bristles on the base of the lobes; style simple, shorter than the corolla-tube; drupes (black in drying) 1-seeded: blunt top free from the calycine covering.—HAB. Jamaica!, *March*; [Cuba!, in woods at Matanzas, *Rugel*].

14. MAPPIA, *Jacq.*

Calyx minute, 5(–4)-dentate, not enlarged. *Petals* 5 (–4), distinct, villous within. *Stamens* 5 (–4), alternate with the petals, hypogynous: filaments long. *Ovary* superior, surrounded by a cupuliform disc, 1-celled: ovules 2, hanging from its summit: style short, suboblique: stigma obscurely lobed.—Shrubs; flowers *in axillary, peduncled, compound, small, corymbiform racemes.*

The *Icacineæ,* to which this genus belongs, may be interpreted by the adhesion of the placenta to the suture of a single carpel; but, if better understood, they may perhaps prove to approach *Corneæ.*

5. **M. racemosa,** *Jacq.* Leaves lanceolate-oblong, pointed, often porose beneath in the vein-axils, exceeding the panicles; petals oblong; stamens included, disc 5-lobed, glabrous: lobes rounded; drupe ovate, pointed.—*Jacq. H. Schœnbr.* 1. *t.* 47.—M. affinis, *Mrs.!*: the form with the leaves not porose, but both leaf-kinds occur on the same branch. Icacina dubia, *Macf.* !—6′ high; leaves 4″–6″, petals 2‴, drupe 8‴ long. The anthers are bilocular, ovoid-oblong (not bilobed).—HAB. Jamaica!, *Macf.*, *Pd.*, in woods, Port Royal, S. Anns, Manchester.

XCII. LORANTHACEÆ.

Calyx-limb reduced. *Corolla* epigynous, valvate, or none. *Stamens* opposite to, and mostly inserted into the petals. *Ovary* simple, solid: ovules 3–1, erect, reduced to simple embryo-sacs, adhering to the ovary. *Pericarp* baccate. *Embryo* mostly small, enclosed in endosperm.—Green shrubs, *mostly parasites on the branches of woody plants;* leaves *usually opposite, thickish-leathery, quite entire.*

The bark and berry contains a viscid sap. Several *Loranthi* are used in Colonial medicine.

1. LORANTHUS, *L.*

Calyx-limb entire or minutely denticulate. *Petals* 6–4–8, distinct or combined. *Anthers* 2-locular, introrse, longitudinally dehiscent.—Flowers 1–3-*bracteolate.*

All the West Indian species are glabrous parasites, their flowers hermaphrodite, the calyx-limb truncate entire, and by their continuous (not jointed) branches they are easily to be distinguished from the following genera.

Sect. 1. PSITTACANTHUS.—*Flowers large, usually corymbose, supported by a cuculliform bractlet. Petals combined into a slender tube. Filaments long, inserted into the corolla-throat: anthers oblong, usually dorsally incumbent. Style filiform: stigma capitate.*

1. **L. americanus,** *Jacq.* Branchlets cylindrical; leaves ovate or oval, obscurely veiny: principal veins separating from the midrib below the middle; flowers corymbose: pedicels ternate, thrice as long as the calyx; cupule and calyx-limb entire; *corolla* crimson, *cylindrical* in the bud or slightly thickened at the top, incurved, 6-*fid almost to the middle* (2″ long): *lobes linear,* recurved, exceeding a little the incumbent anthers and the style; filaments as long as the anthers; berry "ovoid."—*Jacq. Amer. Pict. t.* 98; *Desc. Fl.* 6. *t.* 390.—L. Jacquini, *DC.* L. Plumieri, *Cham. Schl. ex Plum. Ed. Burm. t.* 166. *f.* 1, which appears to be a rough figure of our plant.—Leaves variable, as generally in the genus.—HAB. Dominica !, *Imr.;* [Guadeloupe !; Mexico ! to Brazil !].

2. **L. claviceps,** *Gr.* Branchlets cylindrical, subcompressed; leaves broadly oval, rounded at both ends, veiny: principal veins separating from the midrib below the middle; flowers corymbose: pedicels ternate, thrice as long as the calyx; cupule and calyx-limb repand-entire: *corolla* "yellow, tinged with red," *clavate at the top* in the bud, straightish, 6-*fid to one-fourth–one-third* (3″–2″ long): *lobes elliptical-linear,* recurved, exceeding a little the incumbent anthers and the style; filaments as long as the anthers; berry ovoid-oblong.—L. americanus, *Sw., Macf.* (*non Jacq.*).—Stouter than the preceding; leaves 4″–3″ long, 2½″–2″ broad, black in drying; calyx 3‴, cupule 1‴ long; corolla-limb (before expansion) 2‴ diam.: lobes 1‴ broad, tapering towards the base and the bluntish top; berry 6‴ long.—HAB. Jamaica !, *Macf., M'Nab, Pd., Wullschl.,* on trees along the coast and in the mountains.

Sect. 2. STRUTHANTHUS.—*Flowers small, racemose, ternately glomerate on the pedicel, each supported by a subulate bractlet. Petals distinct. Filaments broad, inserted below the middle of the petals: anthers erect or dorsally incumbent. Style bluntish.*

3. **L. lepidobotrys,** *Gr.* (*n. sp.*). *Branchlets tetraquetrous,* rusty-furfuraceous or squamulose on the angles and chiefly on the axis of the racemes; leaves broadly ovate, pointleted: petiole complicate; racemes simple, single in the axils, exceeded by the leaves: *pedicels* thickish, *as long as the ternately sessile flowers; calyx truncate,* thrice as long as the ovate, pointed bractlet; *corolla ellipsoidal* in the bud: petals 6, linear-oblong, bluntish (1¼‴ long), twice as long as the stamens; anthers erect, hastate-deltoid, pointed; berry oblong.—Leaves 3½″–2″ long, 2″ (–1½″–3″) broad, obscurely veined, smooth, rounded at the base: petiole 3‴ long; racemes shortly peduncled, 3″ long: pedicels distant, opposite, 3‴ long: bractlets concave; calyx 1‴ long; petals incurved; anther-cells disunited from the middle, shortly oblong; style shorter than the petals, thickened at the middle; stigma inconspicuous; berry (immature) 2‴ long.—HAB. Jamaica !, *Al.*

4. **L. orinocensis,** *Spreng.* Branchlets tetragonal, at length cylindrical, rooting:

leaves oval or oval-roundish, complicate at the top; racemes single in the axils, terminal compound: *pedicels shorter than the ternately sessile flowers;* calyx truncate, half again as long as the ovate, bluntish bractlet; *corolla cylindrical* in the bud: petals 6, linear ($2\frac{1}{2}'''$ long); filaments unequal, the longer dilated at the top: anthers erect, subulate; berry oblong.—*Kth. Nov. Gen. t.* 299.—L. marginatus, *Kth.* (*non Desr.*). L. paniculatus, *Kth., and* L. polyrrhizus, *Mart., are probably also synonyms.*—Panama specimens of *L. marginatus*, Desr., are similar, but form a distinct species, having a denticulate calyx-limb, and the corolla-buds abruptly ovoid above a cylindrical base.—Leaves $1''$–$2''$, pedicels $1'''$ long; style cylindrical.—HAB. Trinidad!, *Cr.;* [Venezuela].

5. **L. avicularius,** *Mart.* Branchlets cylindrical: the young internodes tetragonal; leaves oval; racemes axillary and terminal, compound: *flower-clusters subsessile,* or the inferior pedicellate: flowers ternately sessile; calyx subtruncate, as long as the ovate, pointed bractlet; *corolla ovate-oblong* in the bud: petals 6, lanceolate linear ($1'''$–$1\frac{1}{2}'''$ long); filaments unequal, hollowed on the margin, the longer dilated at the top: anthers erect, subulate; berry "ovate."—Leaves $1\frac{1}{2}''$–$3''$, longest pedicels $1'''$ long; flowers greenish-white; style slightly clavate.—HAB. Jamaica!, *Pd.;* [Panama!, Venezuela!, Brazil!, *Spruce, Lor.* 6].

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Sect. 3. DENDROPEMON.—*Fowers small, racemose or subspicate, single on the pedicels; the calyx-tube involved by a cupuliform, 3-dentate or 3-fid bractlet. Petals distinct. Stamens alternately unequal, inserted below the middle of the petals, the longer filaments excavated on the margin below their sterile anther:* 3 *fertile anthers cordate, erect. Style bluntish.*

6. **L. parvifolius,** *Sw.* Branchlets subcompressed-cylindrical; leaves spathulate-lanceolate or obovate, tapering into the petiole; *racemes* axillary, simple, 3–9-*flowered, much to twice exceeded by the leaves,* rusty-furfuraceous: *pedicels nearly as long as the flowers: bractlet* cupulate, *equal, broadly* 3-*fid*, with deltoid lobes; corolla oblong, pointed in the bud: petals 6, linear ($1\frac{1}{2}'''$ long); berry ovoid-oblong.—L. montanus, *Macf.*—Leaves small, $1''$ ($6'''$–$16'''$) long, still more variable in breadth, $3'''$–$9'''$ broad, blunt; pedicels $1\frac{1}{2}'''$–$3'''$ long, distant; style thickened in the middle; berry $3'''$ long.—HAB. Jamaica!, all coll., in the higher region, from the Blue Mountains to Manchester, upwards to the summits, *e.g.* on Coffee-trees.

7. **L. uniflorus,** *Jacq.* Branchlets compressed, at length cylindrical; leaves obovate or spathulate, cuneate at the base, rounded or emarginate on the top; *racemes* axillary, simple, devoid of scaly down, 6–*many-flowered, as long as the leaves: pedicels* distant, *as long as the flowers: bractlet obliquely cupulate, broadly* 3-*fid,* with 2 lobes shorter; corolla oblong, bluntish in the bud: petals 6, linear ($1'''$ long); berry "oblong."—*Jacq. Amer. Pict. t.* 100; *Catesb. Carol.* 2. *t.* 95.—Viscum purpureum, *L. ex ic. Catesb.* L. parviflorus, *Lam.*—Leaves $1\frac{1}{2}''$–$2''$ long; pedicels $2'''$ long; corolla red; berry blackish-blue.—HAB. Bahamas (*Catesb.*); [Cuba!, Haiti].

8. **L. emarginatus,** *Sw.* Branchlets compressed, at length cylindrical; leaves obovate-roundish, shortly cuneate at the subsessile, complicate base, emarginate or mucronulate-subtruncate at the rounded top; racemes spiciform, axillary, simple, furfuraceous, many–3-flowered, as long as or much exceeded by the leaves: *flowers subsessile* or at length shortly pedicellate: *bractlet subequal, cupulate,* 3-*fid,* with deltoid lobes; corolla ovoid-oblong, blunt in the bud: petals 6, lanceolate ($1\frac{1}{2}'''$ long); berry ovoid-oblong.—Leaves $1\frac{1}{2}''$–$1''$ long, $1\frac{1}{2}''$–$8'''$ broad; berry blackish-blue, $3'''$ long.—HAB. Jamaica!, *Pd.;* Antigua!, *Wullschl.,* S. Vincent!, *Guild.*

9. **L. pauciflorus,** *Sw.!* Branchlets subcompressed-cylindrical; leaves obovate, oval, or oval-oblong, subacute at the base, rounded at the top; racemes spiciform, axillary, simple or tripartite, furfuraceous, many–few-flowered, half as long as the leaves: *flowers subsessile: bractlet* cupulate, *minutely* 3-*dentate,* at length subentire: 2 teeth smaller; corolla oblong, pointed in the bud: petals 6, linear ($1\frac{1}{2}'''$ long); berry ovoid.—Leaves $2\frac{1}{2}''$–$1''$ long, $20'''$–$10'''$ broad: petiole short, complicate; flower-pairs at length distant; stamens of *L. parvifolius;* berry $4'''$ long, $2\frac{1}{2}'''$ broad.—HAB. Jamaica!, *Sw.*; [Cuba!].

Sect. 4. Oryctanthus.—*Flowers small, spicate, sunk in excavations of the rhachis: bractlets minute, 3, entire, concealed in their bottom or abortive. Petals and stamens of* Dendropemon.

10. **L. occidentalis,** *L.* (*ex Sl.*), *Sw.* (*non Lœfl.*). Branchlets cylindrical, furfuraceous; leaves ovate, blunt, with the principal veins separating from the midrib near its base: petiole short, complicate; *spikes* axillary, *tetrastichous*, often geminate-ternate, shortly peduncled, usually thrice shorter than the leaves: flowers approximate: *bractlets* 3, *roundish*, persistent; corolla purple, shortly oblong and blunt in the bud: petals 6, lanceolate ($\frac{2}{3}'''$ long); fertile anthers roundish, mucronate; berry ovoid-oblong.—*Sl. t.* 200. *f.* 2.—L. immersus, *Benth.* L. spicatus, *Hb. Bks.:* but *L. spicatus,* Jacq., is a distinct species, which approaches (or is identical with) *L. alveolatus,* Kth. (Spruce, Lor. 13).—Leaves 3″–1″ long; flowers half-exserted: bractlets wholly concealed; style cylindrical; berry 2‴ long. —Hab. Jamaica!, *Macf., Dist., Al., Wullschl.;* [New Granada!, Guiana!].

2. PHORADENDRON, *Nutt.*

Flowers diœcious, apetalous. *Calyx-limb* 3(rarely 2–4)-lobed. *Anthers* sessile, transversely 2-locular: each cell opening with a pore or slit. *Stigma* sessile, blunt. *Berry* closed at the top by the connivent calyx-limb.—Stem *jointed at the nodes;* leaves *opposite;* spikes *axillary, jointed:* flowers *sunk in excavations of the rhachis:* rhachis-pieces *supported by a truncate-bifid involucel.*

Though all the numerous specimens in our collection prove female, from the following arguments I confidently refer the leafy West Indian *Visca* (as well as most species of tropical America) to *Phoradendron.*

1. In *Ph. rubrum* and *Berterianum,* 3 distinct or sessile anthers have been observed by Macfadyen.

2. In all specimens the calyx-limb is 3-lobed: the 4 lobes, figured in his *Viscum rubrum* by Catesby, and "rarely" seen in his *V. flavens* by Macfadyen, are to be regarded as monstrosities.

3. In the peculiar structure of the rhachis, their bifid involucels, and the jointed stem, their analogy with the North American species is perfect.

The term calyx in *Phoradendron* alludes to its green colour and its being persistent on the fruit. But the usual discrimination of the outer flower-whorls according to their position is not applicable to *Loranthaceæ;* for here there are homologous organs, the petals of *Loranthus* (corresponding to those of *Olacineæ*), the calyx-divisions of *Phoradendron,* and the naked stamens of *Viscum* (usually called sepals with adnate stamens).

* *Leaves broad and large, 2″–6″ long.*

11. **Ph. flavens,** *Gr.* Branchlets subcompressed, at length cylindrical; *leaves* ovate, with a bluntish point: *primary veins* 4 (2–6), *united near or at the base of the midrib,* prominulous; spikes 1–3 in the axil, usually nearly half as long as the leaves: joints several, distant: *furrows hexastichous;* berry ovoid-globose.—Viscum, *Sw.* (*exclus. syn. Plum.*). V. macrophyllum, *Macf.!* (*non Spreng.*). Ph. chrysocladon, *As. Gr.:* the form with 3–5-plinerved leaves, passing in Jamaica into 5-nerved ones.—Branches golden-yellow (while in the following species they are brownish); leaves 4″–2½″ long, 2″–1″ broad, tinged with yellowish, which colour is preserved in drying.—Hab. Jamaica!, *Macf., Pd.;* Dominica!, *Imr.,* S. Vincent!, *Guild.;* [Mexico! to Brazil].

12. **Ph. hexastichum,** *Gr.* Branchlets compressed-tetragonal, at length subcylindrical; *leaves* ovate or elliptical, obtusate, contracted at the base: *primary veins inserted along the midrib;* spikes 1–3 in the axils, 4 times or more exceeded by the leaf: joints several, distant: *furrows hexastichous;* berry globose.—*Plum. Ed. Burm. t.* 258. *f.* 4.—Viscum, *DC.*—Leaves 5″–3″ long, 2″–1″ broad, black in drying.—Hab. S. Vincent!, *Guild.;* [Cuba!, Mexico!].

13. **Ph. Berterianum,** *Gr.* Branchlets compressed, at length cylindrical; *leaves oblique,* semiovate-oblong or lanceolate-oblong, blunt, tapering into the petiole: *primary veins inserted along the midrib,* distant, delicate; spikes subsolitary in the axils, 2–4 times exceeded by the leaf: joints 5–4: *furrows tetrastichous;* berry globose.—Viscum, *DC.*

V. dichotomum, *Spreng.* (*exclus. syn.*). V. flavens, *Macf. partim* (*non Sw.*).—Branches brownish; leaves 4″–3″ long, 18‴–8‴ broad; berry "pale-yellow."—HAB. Jamaica!, *Al.*, *M'Nab, Pd., Macf.*, common; S. Vincent!, *Guild.*; [Haiti, Venezuela!].

14. **Ph. martinicense,** *Gr.* Branchlets subcompressed, at length cylindrical; *leaves* oblong-lanceolate, bluntish, tapering at the base: *primary veins 2–4, united near or at the base of the midrib;* spikes 3–1 in the axils, 2–3 times exceeded by the leaf: joints 5–4: *furrows tetrastichous;* berry globose.—Viscum, *DC.* V. anceps, *Spreng.*—Branches yellowish-brown; leaves 3″ long, 12‴–10‴ broad.—HAB. Dominica!, *Imr.*; [Cuba!, Martinique].

15. **Ph. latifolium,** *Gr.* Branchlets cylindrical; *leaves* elliptical or elliptical-lanceolate, subacute at both ends, *veinless*, or with distant, obsolete veins along the midrib; spikes 3–1 in the axils, 2–4 times exceeded by the leaf: joints 5–6: *furrows tetrastichous;* berry ovoid-globose.—Viscum, *Sw.* V. tereticaule, *DC.* V. flavens, *Macf. partim.*—Branches yellowish-brown, exactly cylindrical from the beginning; leaves 3″–5″ long, 1″–2″ (–8‴) broad, thicker and their veins much less distinct than in *Ph. Berterianum*, usually quite inconspicuous.

α. Leaves veinless.

β. *saururoides,* DC. Leaf-veins 1–3-jugal, thickish, visible beneath.—V. latifolium, *Lam. sec. DC.*

HAB. Jamaica!, *March* (α), *Macf.* (α), *Wullschl.* (β); [Cuba!, Panama!].

** *Leaves narrow, 1″–2½″ long.*

16. **Ph. rubrum,** *Gr.* Branches and *branchlets tetragonal; leaves lanceolate* or linear-lanceolate, bluntish: *veins 2–4, inserted at or near the base of the midrib,* delicate; spikes 1–2 in the axils, as long as or half as long as the leaves: joints 4–5, distant: *furrows tetrastichous;* berry ovoid-globose.—*Catesb. Carol.* 2. *t.* 81.—Viscum, *L.* V. tetragonum, *Pœpp.! Cub.* (*non DC.*). V. Kunthianum, *DC.* Loranthus viscifolius, *Kth.*—Leaves 1″–2½″ long, 3‴–8‴ broad; berry "red."—HAB. Bahamas (*Catesb.*); Jamaica!, *March*; S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba!; Panama! to Venezuela!; equat. Brazil!].

*** *Leaves obovate, small, 6‴–2″ long.*

17. **Ph. trinervium,** *Gr.* *Branchlets tetragonal:* branches at length subcylindrical; *leaves obovate or spathulate,* blunt, 3–5-*plinerved:* veins delicate; *spikes* glomerate, single, usually *half as long as the leaves:* joints 2–3, distant: furrows tetrastichous; berry ovoid-globose.—*Plum. Ed. Burm. t.* 258. *f.* 2.—Viscum, *Lam.* V. verticillatum, *L. Sp. ed.* ii. *ex Hb. Bks.* (*exclus. syn. Sl.*). V. jamaicense, *Macf.*—Branches brown; leaves variable in size, 10‴–12‴ (–2″) long, 4‴–8‴ (–14‴) broad; berry "yellow."—HAB. Jamaica!, all coll., common; Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Venezuela!].

18. **Ph. macrostachyum,** *Gr.* Branches and *branchlets subcylindrical; leaves spathulate,* or obovate-roundish, blunt, *veinless,* or obscurely 3–5-nerved; *spikes* slender, *longer than the leaves,* superior trichotomous-paniculate: joints 4–5, distant: furrows tetrastichous; berry ovoid.—*Jacq. Coll.* 2. *t.* 5. *f.* 3.—Viscum, *Jacq.* V. leptostachyum, *DC.?*—Branchlets yellowish-brown; leaves variable, 12‴–6‴ long, 6‴–3‴ broad; spikes 10‴–20‴ long.—HAB. Trinidad (*Sieb. Tr.* 357); [Cuba!].

19. **Ph. myrtilloides,** *Gr.* *Branchlets tetragonal:* branches at length striate-cylindrical; *leaves* obovate or spathulate, blunt, *veinless,* or obscurely 3(–5)-nerved; *spikes* single in the axils, *minute, much exceeded by the leaves:* joints 1–2: furrows tetrastichous; berry subglobose.—Viscum, *W.* V. mucronatum, *DC.* V. tetragonum, *DC.*—Branches yellowish; leaves 6‴–12‴ long, 3‴–6‴ broad; spikes 1‴–4‴ long.—HAB. Dominica!, *Imr.*; [Cuba! to Venezuela!].

3. ARCEUTHOBIUM, *M. B.*

Flowers diœcious, apetalous: ♂ with a rudimentary pistil, exserted from the disc. *Calyx-limb* 3–2 (rarely 4)-lobed or partite. *Anthers* sessile on the middle of the calyx-divisions, unilocular, transversely dehiscent. *Stigma* sessile, blunt.—Stem *dichotomous, aphyllous;* leaves *transformed into scales or points;* spikes *of* Phoradendron.

* *Spike-pieces 2-flowered.*

20. **A. cupressoides,** *Gr.* Branchlets striate-cylindrical, brittle: their *internodes twice as long as those of the spike;* scales pointed, connate, forming a truncate, spreading sheath, like those of the spike; *spike-pieces 2-flowered:* joints 6–2: flowers decussate; ♀ calyx-limb 3-lobed.—Viscum, *Macf.*!—A small parasite, resembling *A. Oxycedri*, which has a longer, 2-lobed ♀ calyx-limb; stem-internodes $2'''$–$3'''$ long: sheaths $1\frac{1}{3}'''$ diam.; spikes axillary, shortly peduncled.—Hab. Jamaica!, *Macf.*, *M'Nab*, on trees of the Blue Mountains.

** *Flowers serial, marginal on the compressed spike-pieces.*

21. **A. gracile,** *Gr. Branchlets* compressed, *at length cylindrical: internodes* linear, truncate, *much longer than those of the spike;* scales reduced or obsolete; ♂ spike-pieces many-flowered: joints 3–2 (4–1): flowers 1–2-seriate on each margin: involucels truncate-2-fid, spreading; ♂ calyx 3-partite.—*Plum. Ed. Burm. t.* 258. *f.* 1; *Desc. Fl.* 5. *t.* 348.—Viscum, *DC.* V. flagelliforme, *Desc.*—Spithameous or $1'$ high; internodes of the stem $12'''$–$6'''$, those of the spike $2'''$ long; ♂ spikes peduncled, axillary and terminal: anthers roundish, compressed: disc flat; style short, terminated with a trigonal stigma.—Hab. Jamaica!, *Pd.*, on trees in the mountains of Port Royal.

22. **A. opuntioides,** *Gr. Branchlets flat-compressed, constricted at the joints:* internodes oblong-linear, rounded at both ends near the truncate joint; scales obsolete, deciduous; ♂ spike-pieces spathulate, many-flowered: joints 3–2: flowers 1-serial on each margin: involucels subtruncate, spreading; ♀ spikes longer, cylindrical: pieces 2–4-flowered: joints 3–4: flowers distichous; calyx of ♂ and calyx-limb of ♀ 3-lobed.—*Sl. t.* 201. *f.* 1.—Viscum, *L.*—Stem $1'$–$2'$ high: branches ascending: internodes usually $1\frac{1}{2}''$–$1''$ long, $6'''$–$3'''$ broad; spikes shortly peduncled, axillary, ♂ $8'''$–$4'''$, ♀ $15'''$–$6'''$ long; calyx-lobes broadly ovate; anthers roundish, compressed: rudimentary style cylindrical; ♂ calyx $\frac{1}{2}'''$ diam., ♀ calyx-limb $1'''$ long, as long as the tube.—Hab. Jamaica!, all coll., on mountain-trees, Port Royal, S. Anns, Manchester.

XCIII. CAPRIFOLIACEÆ.

Stamens epipetalous, rarely epigynous. *Ovary* inferior, syncarpous or simple by abortion. *Embryo* small, in fleshy albumen.—Leaves *opposite, devoid of interpetiolar stipules.*

1. VIBURNUM, *L.*

Calyx-limb minute, 5-partite. *Corolla* infundibular-rotate. *Stamens* 5, epipetalous. *Ovary* 1-celled: ovule single, pendulous: stigmas 1–3, sessile. *Drupe* 1-seeded.—Shrubs; leaves *simple;* flowers *white, in fastigiate cymes:* bracteoles *opposite, deciduous.*

1. **V. villosum,** *Sw. Branchlets* and peduncles *puberulous with stellate down;* leaves chartaceous, elliptical, quite entire (or subdentate above), hoary with short stellate down beneath, or glabrate; cymes peduncled, 6–5(7–4)-rayed: flowers all fertile; *calyx-lobes ovate, ciliate; drupe obliquely ovoid,* black.—$6'$ high; very variable in the down and leaves; drupe $2'''$ long, $1\frac{1}{2}'''$ thick.

α. Leaves hoary-villous beneath.

β. *glabrescens.* Leaves glabrate; down persisting on the cymes.

γ. *subdentatum.* Leaves thickish, rugose, subdentate, undulate, villous or glabrate beneath: the veins impressed above, prominent beneath.

Hab. Jamaica!, all coll., common in the southern mountains at $1000'$–$4000'$ alt.; [New Granada!, Ecuador!].

2. **V. glabratum,** *Kth. Branchlets* and peduncles *hispidulous;* leaves chartaceous, elliptical-oblong, quite entire, glabrous or hispidulous on the revolute margin; cymes peduncled, 5–6-rayed: flowers all fertile; *calyx-lobes deltoid, glabrous; drupe obliquely ellipsoidal-oblong,* black.—V. alpinum, *Macf.*—Leaves smaller and cymes less proliferous than in the usual forms of the preceding; drupe $3'''$ long, $2'''$ thick.—Hab. Jamaica!, *Macf.*, *Wils.*, *March*, Portroyal mountains, John Crow's wood; [Venezuela!, New Granada!, Ecuador!, Peru!].

XCIV. RUBIACEÆ.

Stamens inserted into the sympetalous corolla, rarely free from it. *Ovary* inferior, rarely free above its base, syncarpous. *Embryo* usually included in albumen.—Leaves *mostly quite entire, whorled: one pair in the whorl developed, the rest (the stipules) minute, or all developed.*

Powerful action upon the nervous system is the most remarkable property in this Order, which affords Coffee, Cinchona, and Ipecacuauha. Of Quinquina, only the spurious barks called "Quinquina Piton," or "China caribæa," occur in the West Indies (*Exostemma floribundum* and *brachycarpum*), while the genuine white Ipecacuauha (*Richardsonia scabra*) is a native of Jamaica. *Coutarea speciosa* is used as an emetic in Trinidad (Lockh.); *Chiococca racemosa* affords the resolvent root of Cainca: and *Spigelia anthelmia*, though poisonous, is a reputed anthelmintic. A yellow pigment is extracted from *Morinda Royoc* and *citrifolia*, a red one from *Oldenlandia umbellata.* Timber trees in this Order are: *Chimarrhis cymosa; Guettarda argentea,* an excellent timber-tree (Wils.); *Chione glabra; Ixora ferrea,* a hard wood, used for axe-handles (Imr.).

TRIBES.

Placentas pluriovulate (*Cinchonaceæ*).
- Pericarp fleshy.
  - Placentas parietal . . . . GARDENIEÆ.
  - Placentas central.
    - Ovules immersed . . . . RANDIEÆ.
    - Ovules superficial.
      - Corolla imbricative . . . . HAMELIEÆ.
      - Corolla valvate . . . . SABICIEÆ.
- Pericarp capsular.
  - Stipules between the petioles.
    - Corolla valvate . . . . CINCHONEÆ.
    - Corolla imbricative . . . . RONDELETIEÆ.
  - Stipules connecting the petioles; stem herbaceous.
    - Stipules with bristles . . . . HEDYOTEÆ.
    - Stipules entire; capsule superior . . . . SPIGELIEÆ.

Ovary-cells uniovulate (*Coffeaceæ*).
- Leaves opposite.
  - Pericarp fleshy.
    - Seeds exalbuminous, mostly cylindrical . . . . GUETTARDEÆ.
    - Seeds albuminous.
      - Ovules pendulous.
        - Corolla imbricative . . . . CHIOCOCCEÆ.
        - Corolla valvate . . . . VANGUIERIEÆ.
      - Ovules laterally attached. Corolla contorted . . . . . IXOREÆ.
      - Ovules erect. Corolla valvate . . . . PSYCHOTRIEÆ.
  - Pericarp dry.
    - Ovules pendulous. Radicle superior . . . . CEPHALANTHEÆ.
    - Ovules laterally attached. Radicle inferior . . . . . . SPERMACOCCEÆ.
- Leaves whorled, exstipulate . . . . STELLATÆ.

TRIBE I. *CINCHONACEÆ.—Placentas many(–2)-ovulate.*

SUBTRIBE 1. *GARDENIEÆ.—Corolla-lobes contorted or imbricative. Pericarp fleshy, indehiscent: placentas parietal, many-seeded.*—Woody plants; stipules interpetiolar; flowers corymbose, clustered, or single.

1. GENIPA, *L.*

Calyx-limb campanulate, truncate, or 5-dentate. *Corolla* salver-shaped: tube cylindrical: limb sinistrorsely contorted, 5-partite. *Stamens* inserted below or into the corolla-throat, semiexserted or exserted: anthers linear, subsessile. *Stigma* clavate or 2-fid. *Ovary* 1-

celled: placentas 2, almost touching each other in the axis. *Berry* apparently 2-celled by the placentas contiguous or overlapping.—Flowers *in terminal corymbs.*

The character is enlarged, to admit *Gardenia clusiifolia*, Jacq., but I want materials to decide whether Swartz has not correctly united *Genipa* with *Gardenia.* The ovary presents the same structure: thus the distinction is confined to the greater number of placentæ in the *Gardeniæ*, figured by Wight, and to the inflorescence.

1. **G. americana,** *L.* *Leaves* lanceolate-oblong, *glabrous;* corymbs shortly peduncled: *pedicels shorter than the truncate calyx;* corolla silky, hirsute at the throat: tube shortly exserted, as long as the lobes; anthers exserted; stigma clavate; berry "ovoid."—*Desc. Fl.* 2. *t.* 87.—Gardenia Genipa, *Sw.*—A tree; leaves 5″–10″, white flowers 1″, "berry 2″ long."—HAB. Caribbean Islands!; [Haiti, French islands!; New Granada!, Guiana!].

2. **G. Caruto,** *Kth.* *Leaves* obovate, *pubescent beneath* (or glabrate); corymbs shortly peduncled: *pedicels as long as the* truncate-repand or dentate *calyx;* corolla strigose-tomentose on the outside and within: tube shortly exserted, as long as the lobes; anthers exserted; stigma clavate; berry ovate-oblong.—A tree; leaves 6″–8″, calyx 4‴–5‴, corolla-tube 6‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Cuba!; Tabasco!, Veraguas!, New Granada!, Guiana!].

3. **G. clusiifolia,** *Gr.* *Leaves* obovate, subtruncate at the top, *glabrous;* corymbs shortly peduncled: pedicels as long as the calyx; *calyx-limb* 5-*fid:* lobes linear, distant; *corolla glabrous:* tube exserted, nearly as long as the lobes; anthers semi-exserted; stigma 2-fid: lobes lanceolate-setaceous; berry ovoid.—*Catesb. Carol.* 1. *t.* 59; *Jacq. Coll.* 5. *t.* 4. *f.* 3: *anal.*—Gardenia, *Jacq.*—A shrub; leaves 4″–2″ long, black in drying; corolla-tube 6‴, "berry 3″ long."—HAB. Bahamas!, *Swains.;* [Cuba!, on maritime rocks].

SUBTRIBE 2. *RANDIEÆ.—Corolla-lobes imbricative or contorted. Pericarp fleshy, indehiscent: ovules* ∞ (–2), *immersed into thick central placentas.*—Woody plants; stipules interpetiolar; flowers corymbose, clustered, or single.

2. CATESBÆA, *L.*

Calyx-limb 4-partite. *Corolla* infundibular: tube tapering downwards: lobes 2 exterior, 2 interior induplicative. *Stamens* inserted into the corolla-base, exceeding its throat: anthers linear, erect. *Style* subentire. *Berry* 2-celled: seeds compressed, wingless, parallel to the placenta-projections.—Small-leaved shrubs: axils *spiny;* pedicels *axillary.*

4. **C. spinosa,** *L.* Leaves ovate or obovate, nearly as long as the spines; flowers large, yellow, nodding; calyx as long as the pedicel: limb-segments subulate, much shorter than the tube; *corolla-tube* gradually tapering from the limb to the middle, filiform below it, 6 *times longer than the* ovate, pointed *lobes;* berry ovoid.—*Catesb. Carol.* 2. *t.* 100; *Bot. Mag. t.* 131; *Bot. Reg. t.* 858; *Rich. Cub. t.* 47.—C. longiflora, *Sw.* C. latifolia, *Lindl.* C. macrantha, *Rich.*—Leaves 4‴–8‴, corolla-tube 5″–6″, berry 1½″ long.—HAB. Bahamas!, *Swains.;* cultivated in Jamaica!, *Al.;* [Cuba!].

5. **C. parviflora,** *Sw.* Leaves roundish-elliptical or obovate, usually exceeded by the spines; flowers small, white, shortly pedicellate; segments of the calyx-limb lanceolate, acuminate, longer than the tube; *corolla-tube* tapering from the limb to the base, *twice as long as the* ovate, pointed *lobes;* berry globose.—*Sl. t.* 207. *f.* 1.—C. parvifolia, *DC.:* a form with puberulous branchlets and small leaves. C. campanulata, *Ram.!*—Very spiny, 6′ high; leaves 3‴–6‴, corolla-tube 4‴ long; berry 3‴–4‴ diam.—HAB. Jamaica (*Sw.*), in maritime thickets along the northern coast; Antigua!, *Lane, Wullschl.;* [Cuba!, Haiti].

3. POSOQUERIA, *Aubl.*

Calyx-limb 5-dentate. *Corolla* salver-shaped: tube long, filiform: limb gibbous, 5-partite, imbricative. *Stamens* exserted: filaments short, inserted into the corolla-throat: anthers oblong-linear, pointed, inserted above their base. *Berry* 2-celled.—Shrubs; flowers *white, in terminal corymbs.*

6. **P. latifolia,** *R. S.* Leaves ovate or elliptical, rounded at the base, leathery, glabrous; calyx-teeth blunt; corolla-tube straight, much longer than the nodding limb: lobes

oblong, blunt, unequal; anthers subequal; stigma subentire; berry subglobose.—*Rudg. Guian. t.* 40.—Solena, *Rudg.* P. trinitatis, *DC.*—Stipules variable, oblong or deltoid; corolla-limb in the bud oval-oblong, blunt; leaves 6″–4″, corolla-tube 6″–3″, larger lobes 6‴ long.—Hab. S. Vincent !, *Guild.;* Trinidad (*Sieb.*); [Panama !, Venezuela !, Guiana !, Brazil].

4. RANDIA, *L.*

Calyx-limb with 5 (4–6) segments or teeth. *Corolla* salver-shaped: tube subcylindrical: limb contorted or contorted-imbricative. *Stamens* exserted: anthers erect, sessile at the corolla-throat. *Stigma* 2-fid. *Berry* 2-celled: seeds of *Catesbæa.*—Shrubs; flowers *subsessile or pedicellate, usually clustered, white in the West Indian species.*

Sect. 1. Oxyceros, *DC.*—*Corolla-limb sinistrorsely contorted: tube cylindrical or gradually enlarged.*

7. **R. aculeata,** *L.* Spines opposite, supra-axillary (or none); leaves obovate or elliptical, at length leathery, glabrous; flowers single–ternate, subsessile, lateral or axillary; *calyx-limb shortly campanulate:* teeth distant, lanceolate, bluntish, recurved; *corolla-tube* subcylindrical, *internally villous, as long as or twice as long as* the ovate-oblong or ovate *lobes;* anthers linear; berry globose (or ovoid).—Leaves 1″–3″, corolla-tube 2‴–4‴ long; berry 4‴–6‴ diam.

α. Spiny; leaves obovate-roundish, blunt, cuneate at the subsessile base, black in drying.—*Sl. t.* 11. *f.* 4; *Br. Jam. t.* 8. *f.* 1.—Gardenia Randia, *Sw.*—Mr. March collected a form of this without spines and with ovoid berries.

β. mitis, L. Usually unarmed; leaves elliptical (or lanceolate-elliptical), pointed, tapering into a short petiole, usually larger than in *α.*—*Sl. t.* 161. *f.* 1.—R. latifolia, *Lam.*

Hab. Bahamas !, *Swains.* (*α*); Jamaica !, all coll. (*α*, *β*), common on dry hills; Antigua !, *Nichols.;* Dominica !, *Imr.;* [Key West !, Cuba !, Haiti !, S. Thomas !].

8. **R. armata,** *DC.* Spines in fours below the summit of branchlets; leaves ovate or elliptical, pointleted, membranaceous, glabrate, puberulous on the nerves beneath; flowers glomerate, terminal; *calyx-limb 5-partite:* segments linear, spreading; *corolla-tube* cylindrical, *glabrous at the throat, 4 times as long as the* ovate-lanceolate *lobes:* limb before anthesis subuliform; berry "ovoid."—*Jacq. Amer. Pict. t.* 71.—Gardenia, *Sw.* Mussænda spinosa, *Jacq.*—Leaves 3″–2″, calyx-limb 3‴–6‴, corolla-tube 12‴ long.—Hab. S. Lucia (*Sw.*); [Martinique; New Granada to Guiana !].

Sect. 2. Euclinia, *DC.*—*Corolla-tube long, cylindrical, abruptly dilated at the throat: limb contorted-imbricative: one lobe exterior. Anthers pointed.*

9. **R. Moussændæ,** *DC.* Unarmed; leaves lanceolate-elliptical or lanceolate, pubescent beneath, membranaceous; flowers single at the top of reduced branchlets, sessile; *calyx-limb 5-fid:* lobes distant, subulate-setaceous, erect; *corolla-tube* 4–2 *times as long as the* ovate, pointed *lobes, externally pubescent,* villous at the throat; berry glabrate, ovoid.—*Jacq. Amer Pict. t.* 70.—Mussænda formosa, *Jacq.*—Leaves 1″–3″, calyx-limb 2‴, corolla-tube 2″–3″, berry 1″ long.—Hab. S. Vincent !, *Guild.;* Trinidad !, *Cr.*, in savannahs; [Mexico to Guayaquil ! and Guiana !].

5. AMAJOUA, *Aubl.*

Flowers usually unisexual. *Calyx-limb* campanulate, deciduous, 6-dentate, or subtruncate. *Corolla* salver-shaped: tube cylindrical: limb sinistrorsely contorted, 6-partite. *Stamens* included, inserted into the corolla-tube: anthers linear, erect, subsessile. *Stigma* clavate. *Ovary* 2-celled, with a thin dissepiment: cells many-ovulate. *Berry* dry: cells incompletely subdivided by slight lamellar projections of the endocarp between the 2-serial seeds.—Shrubs; arched leaf-veins *prominulous beneath; flowers clustered or corymbose, hairy.*

10. **A. fagifolia,** *Desf.* Branchlets striate-cylindrical, strigose; leaves elliptical or obovate, shortly pointleted, glabrous, sericeous on the veins beneath, petioled; *clusters* fascicled-terminal, *shortly peduncled or subsessile,* sericeous: flowers subsessile; calyx-limb short: teeth minute, setaceous, distant; corolla-lobes lanceolate, as long as the tube; berry ovoid.—*Mém. Mus.* 6. *t.* 5.—A. guianensis, *Seem. Panam.* (*non Desf.*).—Leaves 3″–5″,

petioles and longest peduncles 6‴–8‴, ♀ calyx-limb 1‴–½‴, corolla-tube 2‴–3‴, berry 6‴ long.—HAB. Trinidad !, *Pd.*, *Cr.*; [Panama !, Guiana, equat. Brazil].

11. **A. corymbosa,** *Kth.* Branchlets subcylindrical, sericeous; leaves elliptical, shortly pointleted, glabrous, sericeous on the veins beneath: petioles sericeous; *corymbs peduncled,* fascicled-terminal, sericeous: peduncle exceeding the petiole: flowers pedicellate; ♂ calyx-limb half as long as the corolla-tube: teeth lanceolate, much shorter than the tube, distant; corolla-lobes lanceolate, as long as the tube.—*Kth. N. Gen. t.* 294.—Leaves 4″–6″, petioles 10‴–12‴, peduncles 2″, ♂ calyx-limb 3‴–2‴, corolla-tube 4‴–5‴ long; pedicels variable in length (*Cr.*), 2‴–3‴ long in our specimens.—HAB. Trinidad !, *Cr.*, at Acaro; [Venezuela].

6. CORDIERA, *Rich.*

Flowers unisexual. *Calyx-limb* truncate. *Corolla* salver-shaped: tube subcylindrical: limb sinistrorsely contorted, 4–5-partite. *Stamens* included, inserted below the corolla-throat: anthers subsessile. "*Stigma* 4–5-fid. *Ovary* 4–5-celled: cells 2 ovulate. *Berry-cells* 1-seeded."—Glabrous shrubs; flowers *sessile, terminal,* ♂ *ternate,* ♀ *solitary.*

12. **C. triflora,** *Rich.* Leaves oblong-lanceolate, bluntish, chartaceous; corolla puberulous: lobes lanceolate, acuminate, nearly as long as the tube.—Leaves 3″–2½″, ♂ calyx-limb 1‴, corolla 10‴–12‴ long.—HAB. Trinidad !, *Pd.*, *Cr.*, in the Savannah de Omara; [Guiana !].

7. SCHRADERA, *V.*

Calyx-limb truncate. *Corolla* salver-shaped or infundibular: lobes 5–10, imbricative, one interior, the others usually valvate. *Stamens* inserted into the corolla-tube or its throat: anthers linear or oblong, affixed to the filaments above their base. *Stigma* 2–4-fid. *Berry* 2–4-celled: cells many-seeded.—Trailing shrubs, *rooting on their supports;* stipules *deciduous;* flowers *capitate:* heads *involucred by connate bracts.*

13. **S. capitata,** *V.* Leaves elliptical, pointed: stipules oblong, blunt, exceeding the petiole; flower-heads peduncled, terminal; *corolla infundibular: tube campanulate,* shortly exceeding the calyx: lobes 5–6, oblong-lanceolate, nearly as long as the tube; *stamens included;* berry 2-celled.—*Vahl, Eclog.* 1. *t.* 5: the tube longer than in our specimen.—Corolla 10‴ long or smaller.—HAB. Montserrat (*V.*), Dominica !, *Imr.*

14. **S. cephalotes,** *V.* Leaves elliptical or lanceolate-oblong: stipules spathulate-oblong, blunt, as long as the petiole; flower-heads peduncled, terminal, single: involucre entire, much shorter than the calyx; *corolla salver-shaped: tube cylindrical,* twice as long as the calyx: lobes 8–10, linear-lanceolate, pointed, as long as the tube; *stamens exserted,* inserted into the corolla-throat; berry 4-celled.—Fuchsia involucrata, *Sw.* !—Corolla white: tube 8‴ long.—HAB. Jamaica !, *Sw.*, *Al.*, *Wils.*, *M'Nab*, *March*, on rocks in mountain-woods, S. Anns, Morea's Gap.

SUBTRIBE 3. *HAMELIEÆ.—Corolla-lobes imbricative. Ovules* ∞, *superficial upon the central placentas. Pericarp baccate, indehiscent: sarcocarp thin: seeds minute, wingless.*—Stipules interpetiolar; flowers usually in cymes.

8. ISERTIA, *Schreb.*

(Brignolia, *DC.* Bruinsmia, *Miq.*)

Calyx-limb 4(–6)-dentate. *Corolla* tubular, infundibular below the limb: lobes 6, valvate below, imbricative at the top. *Stamens* included or semiexserted, inserted into the middle of the corolla-tube: anthers linear-acuminate, affixed to short filaments above their base. *Stigma-lobes* 6, distinct or connate. *Berry* 6(–4)-pyrenous.—Woody plants; interpetiolar stipules *2-partite or combined;* cymes *in a terminal, trichotomous, thyrsoid panicle:* flowers *red or yellow.*

15. **I. coccinea,** *V.* Leaves elliptical, pointleted, glabrous above, pubescent with stellate down beneath; panicle pubescent: central flowers subsessile; calyx-teeth blunt; *corolla pubescent,* bearded at the throat: *lobes reduplicate-crested* near the margin below, 10 *times shorter than the tube;* stigma-lobes filiform, distinct.—*Aubl. t.* 123; *Miq. Surin. t.* 48.—

Guettarda, *Aubl.* I. flava, *Miq.*—A tree: leaves 10″–6″, corolla 2¼″–2¾″ long, the latter crimson and yellow above.—Hab. S. Vincent!, *Guild.;* [New Granada, Guiana!].

16. **I. Hænkeana,** *DC.* Leaves obovate or elliptical, pointleted, glabrous above, pubescent with stellate down beneath; panicle pubescent: central flowers pedicellate; calyx-teeth deltoid; *corolla glabrescent,* bearded at the throat: *lobes* reduplicate-crested near the margin below, about 6 *times shorter than the tube;* stigma-lobes filiform, subdistinct.—*Miq. Surin. t.* 48 *aa: flower.*—I. coccinea, *Bartl.!* J. commutata, *Miq.*—A tree; leaves 12″–8″, corolla 8‴–14‴ long, the latter crimson.—Hab. Caribbean islands; [Guadeloupe!; Mexico!, New Granada!, Guiana].

17. **I. parviflora,** *V.* Leaves oblong or elliptical-oblong, glabrous above, hispidulous beneath with nearly simple hairs or glabrescent; panicle hispidulous: special cymes contracted, with the central flowers subsessile; calyx-teeth deltoid-roundish; *corolla glabrous,* pilose within: *lobes slightly keeled* below *on the margin,* about *as long as the tube;* stigma-lobes semiovoid, usually combined.—*Vahl, Eclog.* 2. *t.* 15; *Miq. Surin. t.* 49.—Brignolia acuminata, *DC.* Bruinsmia isertioides, *Miq.*—A shrub; leaves 12″–6″, corolla 4‴–6‴ long.—Hab. Trinidad!, *Lockh., Pd.,* common in woods, Arima hills; [Guiana!].

9. HAMELIA, *Jacq.*

Calyx-limb short, 5-lobed. *Corolla* tubular or campanulate above the base: tube plaited: lobes 5, imbricative. *Stamens* inserted above the corolla-base: anthers linear, erect, included, with their summit exserted. *Stigma* entire. *Berry* 5-celled, 5-furrowed, produced above the calyx-limb.—Shrubs *or* trees; cymes *terminal:* flowers *red or yellow, the lateral ones on the inner side of racemiform, scorpioid branches.*

18. **H. ventricosa,** *Sw.* Leaves 3 (–2) in the whorl, elliptical, pointleted, glabrous or glabrate beneath; cymes 3–5-rayed; *calyx-tube turbinate at the base, longer than the pedicel; corolla-tube* glabrous, constricted above the base, *campanulate above the stricture,* 8–6 times longer than the rounded, spreading lobes; *berry ovoid* or oblong.—*Sl. t.* 183. *f.* 2.—A large tree or shrub; corolla yellow, 18‴ long, 6‴–5‴ broad above.—Hab. Jamaica!, all coll., in dry soil.

19. **H. cuprea,** *Gr.* (*n. sp.*). Leaves 2 (–3) in the whorl, lanceolate-elliptical, shortly acuminate, glabrous; cymes 3-rayed: central pedicels longer than the calyx; *calyx-tube ovate, as long as the lateral pedicels; corolla-tube* glabrous, constricted above the base, *campanulate above the stricture,* 6 times longer than the rounded, spreading lobes; *berry ovoid-subglobose.*—*Br. Jam. t.* 14. *f.* 1.—Nearly allied with the preceding. A small tree, with bronze-coloured flowers; leaves 2″–3″ long, 10‴–18‴ broad; calyx 1½‴, corolla 1″ long, 3‴–4‴ broad above; berry 3‴ long, 2‴ broad.—Hab. Jamaica!, *M'Nab, Wils., March, e.g.* S. Anns.

20. **H. chrysantha,** *Sw.* (*exclus. syn.*). Leaves opposite, cuneate-elliptical, glabrous; cymes 3-rayed; *calyx-tube ovate-subglobose, at length shorter than all pedicels; corolla-tube* glabrous, *tubular,* slightly dilated above the base, 6 times longer than the ovate, erect lobes; berry "oblong."—A shrub, 5′–8′ high; corolla orange, 6‴–8‴ long.—Hab. Jamaica!, *Al., Wils.,* in the northern and western districts, in mountain-thickets.

21. **H. patens,** *Jacq.* Leaves 3–4 (5–2) in the whorl, elliptical, pointleted, cuneate at the base, glabrate above, pubescent beneath or glabrescent; cymes 3–5-rayed, often twice divided: central flowers subsessile; *calyx-tube* ovate, *much longer than the very short pedicel; corolla-tube* puberulous or glabrate, *tubular, subcylindrical,* much longer than the dentiform, suberect lobes; berry ovoid.—*Jacq. Amer. Pict. t.* 72; *Desc. Fl. t.* 107.—H. latifolia, *Rchb.!:* the glabrescent form (Sieb. Tr. 32).—A shrub; corolla crimson, 12‴–6‴ long.—Hab. Jamaica!, all coll.; S. Kitts!, Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Sieb., Cr.;* [Key West!, Cuba! and Mexico! to Peru! and Brazil!].

22. **H. lutea,** *Rohr.* Leaves opposite, elliptical, pointleted, glabrous; cymes 3-rayed or trichotomous below; *calyx-tube* campanulate, *much longer than the very short pedicels:* lobes of the limb linear, blunt, spreading; *corolla-tube* glabrous, *campanulate-tubular* above the cylindrical base, 6 times longer than the suberect lobes; berry ovoid.—*Jacq. Ic. Rar. t.* 335.—H. chrysantha, *Jacq.* (*non Sw.*). H. axillaris, *Sw.:* a form with the cymes exceeded by dichotomous branches.—A low shrub; corolla yellow, 6‴ long.—Hab. Jamaica!, *Pd., March, Wils.,* in woods; Trinidad!, *Pd., Cr.;* [Cuba!, S. Thomas!; Venezuela].

10. BERTIERA, *Aubl.*

Calyx-limb 5-dentate. *Corolla* infundibular: lobes 5, imbricative, cuspidate. *Stamens* inserted into the corolla-throat, semiexserted: anthers linear-acuminate, sessile. *Stigma* bifid. *Berry* 2-celled.—Shrubs, *with accumbent down on the branchlets and the under side of the leaf-veins;* stipules *single: the pair united at the base;* panicle *terminal, racemiform-trichotomous:* flowers *white, small, mucronate in the bud, serial on the inner side of the scorpioid branches.*

23. **B. guianensis,** *Aubl.* Leaves oblong or elliptical-oblong, pointed: stipules subulate; branches of the panicle distant: *flowers sessile;* corolla pubescent, bearded at the throat; *berry* globose, *striate,* crowned with minute calyx-teeth.—*Aubl. t.* 69.—Leaves 6″–4″, corolla 3‴ long; berry 2‴ diam.—HAB. Trinidad!, *Pd., Cr.,* S. Anns; [Venezuela!, Guiana!, equat. Brazil!].

11. HOFFMANNIA, *Sw.*

(Higginsia, *Pers.*)

Calyx-limb 4-dentate. *Corolla* rotate or salver-shaped: divisions oblong, slightly imbricative. *Stamens* inserted into the glabrous corolla-throat or tube, exserted: anthers erect. *Stigma* 2-fid. *Berry* 2-celled.—Shrubs; leaves *membranaceous;* cymes *axillary, transformed into unilateral–scorpioid racemes or spikes, or reduced into clusters.*

Planchon's and Link's *Higginsiæ* represent exactly Swartz's *Hoffmannia,* while Ruiz and Pavon's original *Ohigginsiæ* (known to me only from the figures of the Fl. Peruviana) are said to have shorter, subincluded anthers. They are however undoubtedly congeners, being united by my *H. tubiflora.*

24. **H. pedunculata,** *Sw.!* Branchlets rusty-pilose; leaves elliptical, pointed, cuneate at the long-petioled base, glabrescent above, rusty-pilose with scattered down beneath; racemes few–8-flowered, peduncled: *peduncles as long as or exceeding the petiole: pedicels as long as the calyx; corolla rotate:* segments twice as long as the calyx; stamens inserted into the corolla-throat: anthers linear, subsessile; stigma-lobes short.—*Sw. Fl. t.* 5: *analyt.: the stigma-lobes too short.*—2′–3′ high, woody below, herbaceous above; leaves 3″–4″, petiole 6‴–12‴, peduncles 1″, calyx 1‴ long; corolla yellow and variegated with red: segments bluntish.—HAB. Jamaica!, *Sw.,* in mountain woods.

25. **H. tubiflora,** *Gr.* (*n. sp.*). Glabrous; leaves elliptical, pointleted, cuneate at the long-petioled base; *racemes* few-flowered, *sessile, twice exceeded by the petiole:* pedicels approximate, as long as or longer than the calyx; *corolla salver-shaped:* segments half as long as the tube, tube twice as long as the calyx; stamens inserted into the middle of the corolla-tube: anthers oblong, as long as the filaments; stigma-lobes semi-ovoid.—Related to *H. psychotriifolia* (*Higginsia,* Benth.). Leaves 3″–4″, petiole 6‴–8‴, pedicels 2‴–1‴, corolla-tube 2‴ long; corolla-lobes bluntish, twice as long as the anthers.—HAB. S. Vincent!, *Guild.*

12. GONZALEA, *Pers.*

Calyx-limb 4-fid. *Corolla* infundibular or salver-shaped, hairy at the throat: lobes imbricative, 2 exterior, 2 interior induplicate. *Stamens* included, inserted into the corolla-tube: anthers incumbent. *Stigma* 2-fid. *Drupe* 4–2-pyrenous.—Shrubs *or* trees; flowers *fascicled, in terminal racemes.*

26. **G. Petesia,** *Gr.* Leaves elliptical-oblong or lanceolate-oblong, pointed, puberulous beneath or glabrate: stipules deltoid-subulate, shorter than the petiole; *calyx-lobes minute, deltoid; corolla infundibular,* villous at the throat: *lobes* nearly *as long as the* infundibular *tube;* anthers oblong; drupe fleshy, 4-celled.—Petesia spicata, *Sw.*—A tree, 25′ high, or reduced to a virgate shrub; corolla 2‴ long; drupe 1‴ diam.—HAB. Jamaica!, *Pd., Al., Wils., March,* uncommon in woods, Moneague, Manchioneal; [Cuba!].

27. **G. spicata,** *DC.* Leaves elliptical-oblong, elliptical, or lanceolate-oblong, pointed, pubescent beneath or glabrate: stipules subulate, nearly as long as the petiole; *calyx-lobes linear* or spathulate-linear, *as long as the tube; corolla salver-shaped,* strigose-pubescent, villous at the throat: *tube cylindrical,* slightly dilated at the top, 3–4 *times as long as the*

lobes; anthers oblong-linear; drupe dry, 2-celled.—Lygistum, *Lam.*—A shrub; corolla 4‴–5‴ long; drupe furrowed at the commissure, 1½‴ diam.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 87, *Lockh.*, *Cr.;* [Cuba, French islands!; Guiana!, Bahia!].

SUBTRIBE 4. *SABICIEÆ.*—*Character of* Hameliеæ, *but corolla-lobes valvate.*—Flowers clustered.

13. SABICEA, *Aubl.*

Calyx-limb 5–4-partite (or -dentate). *Corolla* salver-shaped, hairy on the outside: lobes valvate. *Stamens* included, inserted into the corolla-tube: anthers oblong-linear. *Stigma* 5–4-fid. *Berry* 5–4-celled.—Scandent shrubs; leaf-veins *curved;* flowers *fascicled or glomerate, axillary, white.*

28. **S. hirta,** *Sw.* Pilose; leaves elliptical, pointleted: stipules large, cordate-roundish; fascicles 3–5-flowered, supported by a 4-lobed involucre, shortly peduncled: *pedicels longer than the calyx-tube;* calyx-lobes 5, oblong-lanceolate, twice as long as the tube, twice exceeded by the strigose corolla-tube; corolla-lobes oblong, blunt.—*Sw. Fl. t.* 10. *f. inf.: analyt.*—Schwenkfelda, *Sw.*—Corolla-tube 5‴–6‴, lobes 2‴ long; berry white.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*, in mountain-woods, at 3000′ alt., *e.g.* Manchester.

29. **S. hirsuta,** *Kth.* Pilose; leaves elliptical, pointleted, pilose with scattered hairs above and on the nerves beneath: stipules large, cordate-roundish; *flowers glomerate, sessile;* calyx-lobes 5, lanceolate, pointed, twice as long as the hispid tube, twice exceeded by the hispid corolla-tube —S. hirta trinitensis, *DC.*—Leaves quite glabrous or glabrate beneath between the primary veins; corolla-tube 4‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*, along roadsides; [Venezuela].

14. COCCOCYPSELUM, *P. Br.*

Calyx-limb 4-partite. *Corolla* infundibular: lobes valvate. *Stamens* inserted into the corolla-tube: anthers oblong. *Stigma* 2-fid. *Berry* 2-celled.—Creeping *or* trailing herbs; leaf-veins *curved;* flowers *glomerate, axillary, blue or purple.*

30. **C. repens,** *Sw.* Annual, pubescent; leaves ovate, subacute: stipules linear-acuminate, exceeded by the petioles; *flower-heads subsessile* or shortly peduncled, few-flowered: bracts linear, as long as the calyx; calyx-lobes linear, as long as the globose berry; *stamens included.*—*Br. Jam. t.* 6. *f.* 1.—Corolla blue, 3‴ long.—HAB. Jamaica!, *Macf.*, *M'Nab*, *Al.*, *March*, on dry hills; [Cuba!, Haiti].

31. **C. Pseudotontanea,** *Gr.* (*n. sp.*). Suffrutescent, trailing, *pubescent with minute down;* leaves ovate, subacute: stipules linear, as long as or exceeded by the petiole; flower-heads few-flowered: *peduncle as long as the leaf:* bracts linear, half as long as the calyx; calyx-lobes linear, as long as the globose berry; *stamens included*, not reaching to the throat.—Habit of *C. Tontanea*, Kth., but peculiar by having deeply inserted stamens, twice exceeded by the corolla-tube, which is 3‴ long.—HAB. Jamaica!, *Pd.*, on moist banks near Coldspring Gap.

32. **C. nummularifolium,** *Cham. Schlecht.!* Creeping, *villous;* leaves ovate or ovate-roundish, subacute or mucronulate: stipules setaceous, much exceeded by the petioles; flower-heads few-flowered: *peduncle exceeding the long petiole:* bracts linear, shorter than the calyx-tube; calyx-lobes lanceolate-linear, shorter than the globose berry; *stamens exceeding the corolla-tube.*—Distinguished from *C. Tontanea* (Guiana!, Brazil!) by its soft, spreading down, but perhaps a villous variety of the same. Corolla 2‴ long.—HAB. Trinidad!, *Lockh.*, *Lane*, *Cr.*, on rotten trees, in shady woods; [Mexico!, Guiana!, Brazil!].

SUBTRIBE 5. *CINCHONEÆ.*—*Corolla-lobes valvate. Capsule 2-celled.*—Woody plants; stipules interpetiolar; flowers usually corymbose.

15. MACROCNEMUM, *P. Br.*

Calyx-limb 5-denticulate. *Corolla* infundibular: lobes 5, short, pubescent within, valvate or reduplicate. *Stamens* included, inserted into the corolla-tube: filaments villous: anthers

incumbent. *Stigma* bilamellar. *Capsule* oblong, loculicide from the middle upwards and downwards: valves united at the top: seeds minute, parallel to the placenta, peltate, compressed, margined, tailed at both ends.—Leaves *petioled: stipules large, deciduous; corymbs in terminal and axillary peduncled panicles.*

33. **M. jamaicense,** *L.* Glabrous; leaves large, obovate, nearly as long as the axillary peduncles; calyx-teeth minute, distant; corolla greenish-white: tube clavate: lobes reduplicate in the bud, ovate-roundish.—*Sw. Obs. t.* 3. *f.* 1.—A shrub, 10′–15′ high (*Pd.*), or a tree (*Macf.*); leaves 6″–10″, corolla-tube 6‴, lobes 1½‴, capsule 1″ long, the latter tapering at the base; flowers odorous.—HAB. Jamaica!, *Bancr., M'Nab, Al., Pd.*, in moist woods along rivers, S. Thomas i. V., S. Marys, and southern districts; [Guadeloupe].

16. CHIMARRHIS, *Jacq.*

Calyx-limb truncate. *Corolla* rotate: segments 5 (–6), oblong, bearded below the middle within, valvate. *Stamens* exserted, inserted into the corolla-throat: filaments villous below: anthers incumbent. *Stigma* 2-lobed. *Capsule* small, obovate-roundish, septicide at the top: valves at length 2-fid: seeds minute, oval-roundish, reticulated, margined, compressed, parallel to the placenta.—Habit *and* inflorescence of *Macrocnemum, but* corymbs *more contracted, fastigiate; stipules deciduous, acuminate.*

34. **C. cymosa,** *Jacq.* Branchlets angular, at length cylindrical; leaves obovate-oblong or elliptical, pointed, tapering into the petiole, glabrous, nearly as long as the long-peduncled panicles; capsule bluntish at the base.—A large tree, 50′–60′ high; leaves 6″–12″ long; flowers odorous, whitish-green; corolla 2‴ long.—HAB. Jamaica!, *Macf., Al., Wils., March*, along river-banks; Antigua!, *Ponthieu;* Dominica!, *Imr.;* S. Vincent!, *Anders., Guild.;* [Cuba!; French islands!].

SUBTRIBE 6. *RONDELETIEÆ.—Corolla-lobes imbricative. Capsule 2-celled.*—Stipules interpetiolar.

17. COUTAREA, *Aubl.*

Calyx-limb 6(5–7)-partite. *Corolla* infundibular, unequal below: lobes imbricative. *Stamens* exserted, free from the corolla: anthers linear, erect. *Style* subentire. *Capsule* septicide, at length loculicide above: seeds surrounded with a large, entire, oblong, wing.—Trees *or* shrubs; flowers *large, ternate–single, terminal.*

35. **C. speciosa,** *Aubl.* Branchlets glabrous; *leaves* ovate or elliptical-oblong, subacute at the base, *glabrous* above, glabrescent beneath: segments of the calyx-limb subulate-filiform; corolla-lobes ovate, pointed, much shorter than the curved, clavate, glabrous tube; capsule elliptical, acute at the base.—*Aubl. t.* 122; *Jacq. Amer. Pict. t.* 65.—Portlandia hexandra, *Jacq.*—Leaves 1″–3″ long, variable, pointed or blunt; corolla pale-rosy: tube 1″–2″, lobes about 4‴ long; anthers 6‴ long; capsule subcompressed, usually black, with white points, 8‴–12‴ long.—HAB. Trinidad!, *Sieb. Tr.* 35, *Lockh., Pd., Cr.;* [Yucatan!, Panama!, New Granada!, Venezuela!, Guiana!, Brazil!].

18. EXOSTEMMA, *DC.*

Calyx-limb 5(–4)-partite. *Corolla* salver-shaped: tube filiform-cylindrical: lobes linear, slightly imbricative, 2 exterior. *Stamens* of *Coutarea. Style* filiform: stigma thickish. *Capsule* septicide: valves entire or at length 2-fid: seeds oval, winged.—Woody plants; flowers *in terminal corymbs or axillary.*

An anomalous congener is *Catesbæa Vavassorii*, Spreng., of Haiti, *Schomb.* It has a 4-lobed corolla, minute leaves, and spinescent branchlets.

36. **E. floribundum,** *R. S.* Glabrous; leaves elliptical or oblong; flowers in a corymbose panicle: *pedicels as long as the cylindrical calyx-tube;* corolla-tube nearly as long as the lobes; *capsule lanceolate-oblong, smooth.—Lamb. Cinch. t.* 7; *Desc. Fl.* 1. *t.* 13.—Cinchona, *Sw.*—A high tree; leaves 4″–6″, pedicels 4‴, corolla-tube 14‴–6‴, capsule 6‴ long; flowers pale-red.—HAB. S. Lucia (*Sw.*), Dominica!, *Imr.*, S. Vincent!, *Guild.*, in mountain-woods; [Haiti, French islands].

37. **E. brachycarpum,** *R. S.* Glabrous; leaves obovate or elliptical; flowers corymbose: *pedicels longer than the ovate calyx-tube;* corolla-tube twice as long as the lobes; "*capsule oval,* 10-*costate.*"—*Lamb. Cinch. t.* 8.—Cinchona, *Sw.*—A low tree; leaves 3″–6″, pedicels 3‴–4‴, calyx-tube 2‴, corolla-tube 2″–1″, capsule 8‴ long; flowers pale-red.—Hab. Jamaica!, *Al.*, in the northern mountain-woods, Moneague.

38. **E. triflorum,** *G. Don.* Glabrous; leaves lanceolate-oblong; flowers corymbose: *pedicels* ternate, *as long as* or the inferior longer than *the shortly cylindrical calyx-tube;* corolla-tube nearly as long as the lobes; "*capsule obovate.*"—Cinchona, *Wright.*—Leaves 3″–2″, petioles 4‴, pedicels 2‴–3‴, corolla-tube 8‴ long.—Hab. Jamaica!, *March.*

39. **E. caribæum,** *R. S.* Glabrous; leaves shortly elliptical or lanceolate-elliptical, long-petioled, subcomplicate; *pedicels axillary, as long as the cylindrical calyx-tube;* corolla-tube nearly as long as the lobes; *capsule ovoid-oblong, smooth.*—*Jacq. Amer. Pict. t.* 63; *Lamb. Cinch. t.* 4.—Cinchona, *Jacq.*—A fragrant shrub, 10′–20′ high; leaves 2″ (3″–1″), petioles 4‴, pedicels 3‴, corolla-tube 12‴–16‴, capsule 5‴–8‴ long; flowers rosy-white.—Hab. Jamaica!, *Macf.*, *Pd.*, *March,* common in dry, stony, calcareous soil along the coast; Antigua!, *Nichols.*, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb.;* [Key West!, Cuba!, French islands!; Mexico! to Guiana!].

19. PORTLANDIA, *P. Br.*

Calyx-limb 5-partite. *Corolla* infundibular: tube long, tapering towards the narrow base: lobes plaited-imbricative, one lobe exterior. *Stamens* of *Coutarea*, but included. *Style* of *Exostemma*. *Capsule* loculicide: seeds compressed, minutely foveolate, not winged. —Glabrous shrubs; leaves *shortly petioled;* flowers *large, single* (–3) *in the axils, shortly peduncled.*

The peculiar æstivation of the corolla I regard as a modification of the imbricative, not of the valvate type: this view is confirmed by the affinity of *Portlandia* with the preceding genera, proved by the structure and hypogynous insertion of the stamens, and the general habit. A similar observation may be made on the æstivation of *Catesbæa*.

The next genus to *Portlandia* is the Haitian *Isidorea* (collected by Sir R. Schomburgk), which is chiefly distinguished by a septicide capsule.

40. **P. grandiflora,** *L.* Leaves elliptical or elliptical-oblong, pointed, leathery, shining, veiny: stipules deltoid or ovate; *segments of the calyx-limb foliaceous, elliptical-lanceolate;* corolla whitish, often as long as the leaves: tube gradually tapering: lobes rounded-deltoid; anthers $\frac{1}{3}$–$\frac{1}{4}$ as long as the filaments; *capsule* elliptical, 5-*costate.*—*Br. Jam. t.* 11; *Jacq. Amer. Pict. t.* 64.—8′–10′ high; corolla fragrant, 8″–3″ long; anthers 14‴–6‴, capsule 1″ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *March,* common among rocks; [S. Thomas].

41. **P. gypsophila,** *Macf.* Leaves oblong, pointed, leathery, shining above, arch-veined: secondary veins inconspicuous: stipules subulate-roundish; *segments of the calyx-limb linear-acuminate;* corolla as long as the leaves: tube gradually tapering: lobes rounded-deltoid; anthers half as long as the filaments; *capsule* oblong, tapering at the base, *smooth.*—Habit of the preceding, and related to *P. platantha,* Hook.; corolla 7″–8″, anthers 2″, capsule 2″ long; corolla-lobes 10‴ diam.—Hab. Jamaica (*Macf.*); [Cuba!].

42. **P. coccinea,** *Sw.* Leaves ovate or elliptical-oblong, pointed, leathery, shining, veiny: stipules deltoid; *segments of the calyx-limb lanceolate, acuminate;* corolla crimson, about half as long as the leaves: tube gradually tapering, cylindrical-5-costate at the base: lobes deltoid; anthers half as long as the filaments; *capsule* elliptical, *smooth.*—2′–3′ high; leaves 5″–3″, corolla 2″, anthers 8‴, capsule 8‴–10‴ long; corolla-lobes 4‴ diam.—Hab. Jamaica!, *Pd.*, *Bancr.*, *Al.*, *March,* rare, on rocks.

20. HILLIA, *Jacq.*

Calyx supported by a 2–6-leaved involucel: limb 2(–4)-partite. *Corolla* salver-shaped: tube cylindrical: lobes 6–4 (–7), imbricative. *Stamens* included: filaments wholly adnate: anthers oblong, erect, inserted below the corolla-throat. *Style* filiform: stigma thickish, 2-lamellate. *Capsule* siliquiform, septicide: seeds fusiform, with a long, penicillate tail, not winged.—Glabrous shrubs; stipules *foliaceous, deciduous;* flowers *terminal, single, sessile, white, fragrant.*

The character of *Hillia* must be enlarged, if, as would be advisable, *Cosmibuena*, R. P., Benth., is to be reduced to it.

43. **H. longiflora,** *Sw.* Leaves elliptical, pointed; *corolla-lobes* 6 (–7), *lanceolate, bluntish,* recurved, ½–¼ as long as the tube, contorted-imbricative; style as long as the corolla-tube.—*Jacq. Amer. Pict. t.* 97; *Sw. Obs. t.* 5. *f.* 1.—H. parasitica, *Jacq.*—A low shrub, rooting at the base; leaves 2″–5″, corolla-tube 4″–3″, lobes 1″–2″ long, the latter tapering from the imbricated base; 2 exterior involucel-leaves oval-oblong, blunt, including the calyx, 14‴–6‴ long.—HAB. Jamaica!, *Bancr.*, rare, in the higher mountains; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba!, French islands!; Mexico to New Granada!].

44. **H. tetrandra,** *Sw.* Leaves obovate or spathulate-lanceolate, cuneate at the base, rounded at the top; *corolla-lobes* 4, *obovate-roundish,* one-third or one-fourth as long as the tube, 2 exterior; style half as long as the corolla-tube.—3′–4′ high: roots bearing small tubers; leaves 2″–1½″, corolla-tube 1½″–1″, lobes 8‴–4‴, linear-capsule 2″–3″ long; seeds 1‴, their hair-tuft 6‴ long.—HAB. Jamaica!, *Macf.*, *Wils.*, common on the higher mountains, among rocks and tree-roots; [Cuba!].

21. WARSZEWICZIA, *Kl.*

Calyx-limb 5-lobed: one lobe in the corymb transformed into a petioled, large, coloured leaf. *Corolla* small, infundibular: lobes 5, imbricative. *Stamens* exserted, inserted into the corolla-throat: anthers incumbent. *Stigma* 2-lobed. *Capsule* septicide: seeds fusiform, not winged.—Large-leaved trees; corymbs *contracted, arranged in a long, nodding, racemiform panicle.*

45. **W. coccinea,** *Kl.* (*ex syn.*). Leaves obovate-oblong, pointed, hispidulous chiefly on the nerves beneath; transformed calyx-lobes oval, blunt at the top, shortly tapering at the base, reticulated, scarlet, as long as their petioles.—*Vahl, Symb.* 2. *t.* 29.—Macrocnemum, *V.* Calycophyllum, *DC.* W. Schomburgkiana, *Kl.*—Leaves 1′–1½′ long, 6″ broad; transformed calyx-lobes 3″ long, 1½″–1¾″ broad.—HAB. Trinidad!, *Lockh.*, *Sieb. Tr.* 37; [Mexico! to equatorial Brazil! and Peru!].

22. ARACHNOTHRIX, *Planch.*

Calyx-limb 4-partite. *Corolla* salver-shaped, devoid of an annular production at the throat: lobes 4, roundish, imbricative. *Stamens* included, inserted into the corolla-tube: anthers subsessile. *Stigma* 2(–3)-fid. *Capsule* septicide: valves at length often 2-fid: seeds minute, wingless.—Shrubs: *the younger parts bearing an arachnoid down;* cymes *terminal:* flowers *serial on the inner side of their branches.*

The septicide capsule is the chief character of this genus, in contradistinction to *Rondeletia:* hence *R. leucophylla,* Kth., is to be excluded, while *R. elongata,* Bartl.!, is an *Arachnothrix.*

46. **A. hispidulus,** *Gr.* (*n. sp.*). *Leaves* elliptical, pointed, arachnoid-puberulous and *glabrate above,* hispidulous on the nerves and veins beneath: stipules subulate-lanceolate, as long as the petioles; peduncles of the cyme single, as long as the leaves; calyx-lobes unequal, lanceolate, the longest thrice exceeded by the slender, villous corolla-tube; *style included.*—Nearly allied to *A. elongata,* Pl., which has the leaves arachnoid-villous beneath, and the style exserted. Leaves 3″ long, 1″ broad; corolla-tube glabrous within, twice as long as the linear anthers, 6‴, lobes 1‴ long; stigma-lobes lanceolate.—HAB. Trinidad!, *Cr.*, at Maraccas waterfall.

23. RONDELETIA, *L.*

(Petesia, *P. Br.* Stevensia, *Poit.*)

Calyx-limb 5–4-partite. *Corolla* salver-shaped, rarely rotate, produced into a callous ring at the throat: lobes 5–4, roundish, imbricative. *Stamens* included, rarely semiexserted, inserted into the corolla-tube. *Stigma* 2-fid or emarginate. *Capsule* loculicide, subglobose: valves often at length 2-fid: seeds minute.—Shrubs, *rarely* trees; flowers *in paniculate or*

simple cymes or in clusters, rarely single: the ultimate cyme-branches often 3-flowered: calyx *usually bracteolate at the base.*

I formerly employed the name *Petesia* in De Candolle's sense, but since Asa Gray has proved that Bartling's East Indian *Petesiæ* belong to *Timonius* (as I find confirmed by original specimens), it is perhaps more advisable to substitute for the remaining *P. grandis*, Bartl., the later name *Sommera*, and to restore *Petesia*, P. Br., as a peculiar section of *Rondeletia*.

Sect. 1. PETESIA, *P. Br.—Segments of the calyx-limb minute, dentiform,* 5 (-4), *much shorter than the tube.*—Inflorescence usually paniculate, axillary: flowers pedicellate.

47. **R. laurifolia,** *Sw.!* *Leaves* elliptical-oblong, pointed, *glabrous;* stipules subulate-deltoid, villous within; cymes in axillary, hoary-pubescent, racemiform panicles; calyx-teeth deltoid; *corolla* externally tomentose, *subrotate: tube obconical,* subventricose, *as long as the lobes,* which are tomentose within down to the obsolete ring; *anthers ovoid-oblong, semiexserted,* as long as the filaments; seeds surrounded by a broad wing.—*Br. Jam. t.* 2. *f.* 2.—R. lævigata, *Ait.?* (*non DC.*). Leaves 3″-5″ long, 1¼″-2″ broad: petiole 6‴-4‴ long; corolla fragrant, brownish-yellow: tube 1‴ long, twice as long as the minute calyx-limb. In all the following species the anthers are included, oblong-linear, with very short filaments.—HAB. Jamaica!, *Sw., Pd., M'Nab, Al., March,* in the mountains of S. Marys, S. Anns, Manchester.

48. **R. racemosa,** *Sw.!* *Leaves* elliptical-oblong, pointed, *glabrous:* stipules deltoid, villous within; cymes in axillary, glabrous, racemiform, peduncled panicles; calyx-teeth deltoid; *corolla* externally strigose, salver-shaped: *tube shortly clavate, twice as long as the lobes,* which are pubescent within down to the prominulous ring; anthers oblong-linear, included, much longer than the short filaments; seeds . . . .—*Br. Jam. t.* 2. *f.* 3.—Swartz has taken the placentas for the seeds, and neglected to separate the contiguous, oblong-linear stigma-lobes. 5′ high; leaves 3″ long, 1¼″-2″ broad: petiole 10‴-6‴ long; corolla-tube 1½‴ long, twice as long as the anthers.—HAB. Jamaica!, *Sw.*, near Mammee river (*P. Br.*).

49. **R. thyrsoidea,** *Sw.!* *Leaves* ovate or elliptical, pointed, glabrous above, *puberulous with scattered minute down beneath:* stipules deltoid-subulate, strigose within; cymes in axillary, hoary-pubescent, pyramidal panicles; calyx-teeth deltoid; *corolla* externally pubescent, salver-shaped: *tube clavate, thrice as long as the lobes,* which are pubescent on both sides; anthers oblong-linear, included, much longer than the short filaments; seeds margined, with a short appendage at each end.—6′ high; leaves 6″-3″ long, 3″-1½″ broad: petiole 12‴-6‴ long; panicles usually much longer than the petiole; corolla rusty-yellowish: tube 2½‴ long.—HAB. Jamaica!, *Sw., Al., March,* on arid hills, S. Marys.

50. **R. tomentosa,** *Sw.* *Leaves* lanceolate-elliptical or elliptical, *pointed at both ends,* puberulous and at length glabrate above, *hoary-pubescent beneath:* stipules deltoid-subulate, strigose; cymes in axillary, hoary-pubescent, short panicles; calyx-teeth deltoid; *corolla* externally pubescent, salver-shaped: *tube filiform, clavate at the top,* 4 *times as long as the lobes,* which are pubescent on both sides; anthers oblong-linear, included, one-fourth as long as the corolla-tube; seeds margined, with a short appendage at each end.—Petesia stipularis, *L.?* (*exclus. syn. P. Br.*).—3′ high; leaves 3″-1½″ long, 1½″-¾″ broad: petiole 12‴-6‴ long, often not exceeded by the panicle; corolla brownish: tube 2½‴ long; seeds ∞, as in the other species.—HAB. Jamaica!, in rocky hills, S. Katherine, S. Andrews.

51. **R. trifoliata,** *Jacq.* *Leaves* lanceolate-oblong, *acuminate at both ends,* glabrous above, *glabrescent* or hispidulous on the midrib *beneath,* 3-2 in the whorl: veins prominulous beneath: stipules deltoid-subulate, pubescent; cymes in axillary, hoary-pubescent, racemiform, peduncled panicles; calyx-teeth deltoid; *corolla* externally pubescent, salver-shaped: *tube filiform, clavate above, thrice as long as the lobes,* which are pubescent on both sides; anthers oblong-linear, included, one-third as long as the corolla-tube; seeds surrounded by a wing.—*Jacq. Amer. Pict. t.* 62.—12′ high; leaves 3″-4″ long, 10‴-14‴ broad: petiole 4‴-6‴ long; corolla reddish: tube 2‴ long.—HAB. Jamaica!, *Macf.*, S. Katherine.

52. **R. polita,** *Gr.* (*n. sp.*). Leaves opposite, elliptical-oblong, or lanceolate-oblong, *bluntish, tapering at the base, quite glabrous,* polished on both sides: veins delicate,

scarcely prominulous beneath: stipules subulate, broader than long, pubescent within; cymes in short, corymbiform, puberulous, axillary panicles; calyx-teeth deltoid; *corolla* externally pubescent, salver-shaped: *tube clavate, thrice as long as the lobes,* which are pubescent on both sides; anthers oblong-linear, included, twice as long as the filaments, $\frac{1}{3}$ as long as the corolla-tube; seeds . . . .—Leaves 4″–3″ long, 18‴–10‴ broad: petiole 10‴–4‴ long; corolla-tube 2‴ long; capsule glabrescent: valves chartaceous, 2-partite.—HAB. Jamaica!, *Pd., Al.,* near S. Ann's Bay.

53. **R. daphnoides,** *Gr.* (*n. sp*). *Leaves* obovate or elliptical-oblong, *pointed at both ends,* shortly petioled, *quite glabrous,* polished on both sides: veins delicate, scarcely prominulous beneath: stipules subulate, broader than long, hairy within; *cymes* once or twice 3-partite-corymbiform, axillary, *glabrous:* pedicels slender, at length longer than the calyx; calyx-teeth deltoid-subulate; *corolla* externally *glabrous,* salver-shaped: *tube filiform, clavate above, 4 times as long as the lobes,* which are puberulous within; anthers 5–4, oblong-linear, included, twice as long as the filaments, $\frac{1}{4}$ as long as the corolla-tube; seeds minute, pointed, with an appendage at both ends.—Leaves 2″–1″ long, 15‴–6‴ broad: petiole 3‴–2‴ long; pedicels 2‴, calyx $\frac{2}{3}$‴, corolla-tube 3‴ long; anthers affixed to the filaments above the base; style shortly 2-fid, $1\frac{1}{2}$‴ long; capsule of the preceding, 2‴ diam.—HAB. Jamaica!, *Al.,* S. Anns, in the pleasant valley between Moneague and Luidas Vale.

54. **R. stereocarpa,** *Gr.* (*n. sp.*). *Leaves* large, lanceolate-oblong, *pointed, tapering at the base, quite glabrous:* stipules deltoid, strigose within; *cymes in* axillary, peduncled, racemiform or pyramidal, *hoary-puberulous panicles:* special peduncle-pairs distant; calyx-teeth deltoid; *corolla* externally *hoary-strigose,* salver-shaped: *tube clavate, twice as long as the lobes,* which are puberulous within, hoary-strigose beneath; anthers oblong-linear, subsessile, included, $\frac{1}{3}$ as long as the corolla-tube; capsule hard: valves entire: *seeds surrounded by a dentate wing.*—A shrub, or small tree; leaves 8″–5″ long, $2\frac{1}{2}$″–2″ broad, black in drying, twice as long as the panicles: petiole 14‴–8‴ long; corolla-tube 2‴ long; capsule hoary-puberulous, with 4 longitudinal furrows, 3‴ diam.—HAB. Dominica!, *Imr.,* in the mountains.

Sect. 2. EURONDELETIA.—*Segments of the calyx-limb narrow, as long as or longer than the tube. Corolla salver-shaped.*—Inflorescence usually axillary, corymbiform, with the peduncle 3-fid at the summit: flowers pedicellate.

55. **R. arborescens,** *Gr.* (*n. sp.*). *Leaves* obovate-oblong, with a bluntish point, acute at the base, *glabrous,* or hairy beneath on the midrib, which is dilated towards the base: stipules deltoid, strigose within; *cymes* in axillary, pubescent, short panicles, *much exceeded by the leaves:* peduncle twice as long as the petiole; *calyx-lobes lanceolate-linear, as long as the tube,* half as long as the clavate, externally pubescent corolla-tube; anthers 5, oblong-linear, much longer than the short filaments, about half as long as the corolla-tube; seeds oval, entire.—A tree (*Imr.*); leaves 5″–3″ long, $2\frac{1}{2}$″–$1\frac{1}{2}$″ broad: midrib prominent beneath, 1‴ broad at the base: petiole 3‴–6‴ long; corolla-tube 2‴ long; capsule with 2 longitudinal furrows, $1\frac{1}{2}$‴ diam.—HAB. Dominica!, *Imr.,* in the mountains.

56. **R. americana,** *L.* *Leaves* lanceolate-oblong, pointed, acuminate at the base, *glabrous, hispidulous on the nerves beneath:* stipules subulate, hairy within; *cymes* axillary, *corymbiform,* long-peduncled, pubescent: *peduncle exceeding the leaves,* ascending: *alar flowers subsessile; calyx-lobes linear,* bluntish, *as long as the tube;* corolla-tube externally pubescent, filiform, clavate above, 4 times as long as the calyx-lobes; anthers 5, oblong-linear, subsessile, inserted into the middle of the corolla-tube and 4 times exceeded by it in length; seeds deltoid, wingless.—*Plum. Ed. Burm. t.* 242. *f.* 1; *Lam. Ill. t.* 162. *f.* 1.—Distinguished from all others by the different length of the lateral and central pedicels, well described by Linnæus.—Leaves 2″ long, 10‴–12‴ broad: petiole 2‴ long; corolla-tube 4‴ long; capsule $1\frac{1}{2}$‴ diam.—HAB. Jamaica!, *Macf.;* S. Vincent!, *Guild., Anders.;* [Cuba].

57. **R. hirsuta,** *Sw.* *Leaves* elliptical or elliptical-oblong, cuspidate, rounded or blunt at the base, *hispidulous* on both sides with scattered down: stipules deltoid-lanceolate, shaggy-pilose; *cymes* axillary, *corymbiform,* long-peduncled, shaggy-pilose: *peduncles as long as the leaves, nodding; calyx-lobes lanceolate-linear, twice as long as the tube,* resembling the bracteoles; *corolla-tube externally hairy with spreading down,* subcylindrical,

at length twice as long as the calyx-lobes; anthers 5, oblong-linear, included, subsessile, inserted into the middle of the corolla-tube, 4 times exceeded by it in length; seeds oval, surrounded by a narrow wing, which is broader at both ends.—R. hirta, *var.* Aitonii, *DC.*—A shrub; leaves 2″–5″ long, 1″–2″ broad: petiole 2‴–3‴ long; corolla-tube 3‴–4‴ long; lobes glabrescent within; capsule 2½‴ diam.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, along rocky river-beds, in the mountains, Port Royal, S. Thomas T. E.; S. Vincent!, *Anders.*

58. **R. pilosa,** *Sw.* *Leaves* oblong, pointed, bluntish at the base, pilose above, *hoary-villous beneath:* primary veins impressed above, prominent beneath: stipules subulate, villous; *peduncles* axillary, *as long as the leaves, 3-flowered,* villous; *calyx-lobes linear, 4 times as long as tube,* resembling the bracteoles; corolla-tube externally pubescent, subcylindrical, equalling the calyx-lobes; anthers 4, included, subsessile, oblong-linear, inserted into the middle of the corolla-tube, thrice exceeded by it in length; seeds trigonal, wingless.—*Vahl, Symb.* 3. *t.* 54.—A shrub, leafy at its extremities; leaves 1″–1½″ long, 8‴–18‴ broad: petiole 1‴ long; corolla-tube 3‴ long; capsule 2‴ diam.—HAB. Montserrat (*Sw.*), Grenada!, *Oerst.*; [Portorico!, S. Thomas!, S. Croix, Martinique].

59. **R. buxifolia,** *V.* *Leaves* spathulate, bluntish, *glabrescent, hairy on the midrib and margin:* stipules deltoid and terminated with a long mucro, strigose; *peduncles* in the uppermost axils, *nearly as long as the leaves, 3-flowered,* pubescent: pedicles of equal length, shorter than the calyx and exceeded by the bracts; *calyx-lobes linear, twice–thrice as long as the tube;* corolla-tube externally pubescent, filiform, clavate at the top, 3–4 times as long as the calyx-lobes; anthers 4–5, included, oblong-linear, inserted into the upper fourth of the corolla-tube, 5 times exceeded by it in length; seeds compressed, surrounded by a wing.—*Vahl, Eclog.* 2. *t.* 12.—R. umbellulata, *Sw.* (*ex descr.*): a more hairy form.—Leaves 14‴–8‴ long, 6‴–3‴ broad: petiole 1‴–½‴ long; corolla-tube 5‴–8‴ long; capsule 2‴ diam.—HAB. Montserrat (*V.*); Jamaica (*ex syn. Sw.*), along rocky river-beds; [Cuba!, Portorico].

R. lævigata, DC. (Sieb. Tr. 374), is unknown to me: from its diagnosis it approaches *R. arborescens,* but its leaves are said to be oblong or elliptical, acuminate at both ends.—*R. odorata,* Jacq. (Amer. Pict. t. 61), is a peculiar species, occurring in our Cuba collections, distinguished from the other *Eurondeletiæ* by having terminal corymbiform cymes.

Sect. 3. STEVENSIA, *Poit.*—*Segments of the calyx-limb ovate or lanceolate, as long as or longer than the tube.*—Peduncles axillary, terminated by a cluster of sessile flowers, which is supported by an involucel, rarely 1-flowered.

R. Poitaei, Gr. (*Stevensia buxifolia,* Poit.!) of Haiti! and Cuba! (Wr. Cub. 1266), is a true congener, having a loculicide capsule, distinguished from the following species (of which the fruit however is still unknown) by shorter 1(–3)-flowered peduncles. The increased number of flower-parts described by Poiteau is a monstrosity: the regular number is 4 or 5.

60. **R. hirta,** *Sw.* Shaggy-pilose above; *leaves chartaceous,* ovate or elliptical, shortly acuminate, rounded or bluntish at the base, *pilose above* with long, scattered hairs, or at length glabrate, *shaggy-pilose, chiefly on the nerves beneath:* stipules deltoid-subulate, woolly; flowers clustered: peduncles 3-fid or simple, as long as or exceeded by the leaves: involucral leaves lanceolate, distinct, resembling the *calyx-lobes,* which are *lanceolate,* acuminate, much longer than the tube; *corolla-tube filiform, clavate above,* externally shaggy-pilose, glabrous within, *twice as long as the calyx-lobes;* anthers 5, oblong-linear, included, inserted below the corolla-throat, 6 times exceeded by it in length.—R. umbellulata, *Macf.!* (*non Sw.*). Confounded by DC. with *R. hirsuta,* Sw., which has pedicellate flowers, and twice shorter, somewhat stiffer hairs on the leaves, the ambiguous term "*hirtus*" having been employed by Swartz in the sense of "hairy with long weak hairs," while the usual meaning of "*hirsuta*" gives no idea of his *R. hirsuta.* Leaves 5″–3″ long, 3″–1½″ broad: petiole 6‴–4‴ long; peduncles shaggy, stiff or lax, 4″–1½″, divisions 6‴ long; corolla-tube 4‴ long.—HAB. Jamaica!, *Macf.*, *Wils.*, among mountain-shrubs.

61. **R. incana,** *Sw.* Shaggy-woolly above; *leaves rigid-leathery,* oval-oblong, blunt, hairy on the upper side with long, decumbent, weak down, at length *shining-glabrate,* with the veins and midrib deeply impressed, *on the under side hoary with branched wool-hairs:* stipules oblong, pointed, deciduous; clusters 3-flowered: *peduncle* simple, *twice as long as the petiole:* involucral leaves distinct, ovate, pointed; calyx-lobes ovate-lanceolate, shaggy-

woolly, much longer than the tube; *corolla-tube clavate, as long as the calyx-lobes*, externally shaggy, with the lobes pubescent within; stamens 5, inserted into the middle of the corolla-tube.—2′–3′ high; leaves 2″ long, 10‴–12‴ broad; petiole 3‴–6‴, corolla-tube 4‴ long.—HAB. Jamaica!, *Pd.*, on calcareous rocks, S. Anns, near Light Hole.

62. **R. cincta,** *Gr.* (*n. sp.*). Subsericeous above; *leaves rigid-leathery*, lanceolate-oblong or oblong, shortly pointleted, acute at the base, *subpubescent* on both sides *with short, scattered, simple down*, at length glabrescent, shaggy-pubescent on the midrib beneath: stipules oblong, pointed, deciduous; clusters shortly peduncled: *peduncle* simple, *as long as the petiole*: involucral scales several, distinct, subulate; calyx-lobes 5, oblong-lanceolate, puberulous; corolla externally hoary-pubescent.—Nearly allied to *R. incana* and *glauca*, but the flowers are too young to admit of a an accurate comparison. A shrub; leaves 2″–3″ long, 15‴–10‴ broad: petiole 6‴–3‴ long; bracts 4‴, calyx-lobes 2‴ long.—HAB. Jamaica!, *Pd.*, Westmoreland, on the summit of Dolphin Peak.

63. **R. glauca,** *Gr.* (*n. sp.*). Subsericeous above; *leaves rigid-leathery*, spathulate-oblong, bluntish with a minute point, tapering at the base, puberulous with minute, scattered, accumbent hairs, at length *glabrate above*: stipules ovate-oblong, pointed, deciduous; *clusters subsessile*, equalling the petiole: *involucral leaves* 4, *united at the base*: segments ovate; *calyx-lobes* ovate, pointed, much longer than the tube, a little or twice *exceeded by the corolla;* corolla-tube cylindrical, externally shaggy-pubescent with accumbent down: lobes puberulous on both sides; stamens 5, inserted into the uppermost third of the corolla-tube, thrice exceeded by it in length.—A shrub, or small tree; leaves glaucous in drying, not shining, 3″–2″ long, 1½″–1″ broad: petiole 3‴–4‴ long; calyx as long as the involucel; corolla-tube 3‴–4‴ long: throat-ring prominulous: lobes roundish.—HAB. Jamaica!, *Pd.*, in rocky woods, S. Anns, in Pedro Valley.

24. SIPANEA, *Aubl.*

Calyx-limb 5-partite. *Corolla* salver-shaped, crowned with cut scales at the throat: lobes 5, contorted-imbricative. *Stamens* included, inserted below the corolla-throat. *Stigma* 2-fid. *Capsule* loculicide: seeds minute, wingless.—Annual herbs; flowers *in terminal cymes, or single.*

64. **S. pratensis,** *Aubl.* Leaves lanceolate or elliptical-lanceolate, pubescent with accumbent down; cyme dichotomous: flowers sessile, serial or approximate on the branches; corolla-tube filiform, dilated at the staminiferous top, about twice as long as the lanceolate-linear segments of the calyx-limb.—*Aubl. t.* 56.—S. dichotoma, *Kth.* S. trichantha, *Benth.!* Corolla rosy: tube 5‴–6‴, lobes 2‴–3‴ long.—HAB. Dominica!, *Imr.;* Trinidad!, *Cr.* in savannahs: [Guiana!, equat. Brazil!].

25. MANETTIA, *L.*

Calyx-limb 4–5-partite, often with as many accessory teeth or segments. *Corolla* salver-shaped: lobes 4–5, imbricative. *Stamens* usually half-exserted, inserted near the corolla-throat. *Stigma* 2-fid. *Capsule* contracted at the commissure, septicide: seeds winged.—Suffruticose, or shrubby climbers; flowers *in axillary corymbiform cymes, or single.*

65. **M. Lygistum,** *Sw.* Leaves ovate, pointed, rigid, reticulated-veiny, puberulous on the midrib beneath: stipules shortly subulate; cymes few-flowered; *calyx-lobes* 4, *lanceolate-linear, alternating with* 4 *minute teeth;* corolla-tube subcylindrical, with scattered hairs within; anthers oblong-linear, half-exserted: filaments short; seeds surrounded with a narrow, entire wing.—*Br. Jam. t.* 3. *f.* 2.—Petesia, *L.;* Lygistum axillare, *Lam.*—Corolla indigo-blue, 6‴ long: capsule the same colour (*Wils.*), but septicide and dry.—HAB. Jamaica!, *Pd.*, *M'Nab*, *Al.*, *Wils.*, *March*, in the high southern mountains, *e.g.* at 5000′ alt. on Catherine Peak; [Haiti!].

66. **M. coccinea,** *W.* Glabrous; leaves ovate, acuminate, shortly tapering at the base, membranaceous: stipules subtruncate, denticulate; cymes few-flowered, exserted, or reduced to solitary, long pedicels; *calyx-lobes* 8, *subequal, lanceolate-linear;* corolla-tube subcylindrical, hairy within, bearded at the throat; anthers 4, linear, half-exserted; seeds surrounded by a cut wing.—*Aubl. t.* 37. *f.* 1; *Bot. Reg. t.* 693.—Nacibea, *Aubl.*, *sec.*

Lindl. (who compared Aublet's specimen). M. cuspidata, *Berter.*, *Seem.!* M. havanensis, *Kth.*—Corolla pale-crimson, 6''' long.—HAB. Jamaica!, *Pd.*, rare, Manchester; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, in ravines and on hills; [Cuba! and Mexico! to Venezuela! and Guiana].

67. **M. calycosa,** *Gr.* (*n. sp.*). Stem hispidulous on the angles, glabrescent; leaves ovate, acuminate, chartaceous, glabrous, or hispidulous on the midrib beneath: stipules deltoid, denticulate; cymes many- or few-flowered, subsessile: pedicels exceeding the petiole, or at length elongated; *calyx-lobes* 4–5, *ovate or ovate-lanceolate*, pointed, *devoid of alternating teeth*; corolla-tube cylindrical, clavate at the top, somewhat hairy within and on the outside: lobes ovate, pointed; *anthers* oblong-linear, *included*; seeds surrounded by a broad, denticulate wing.—*M. Gærtneri*, DC. (G. carpol. t. 197. f. 5), seems to be a related species, but has narrow calyx-lobes. Leaves of the preceding; calyx-lobes 2'''–3''' long, spreading, usually 2''' broad at the base; corolla red, 8''' long.—HAB. Dominica!, *Imr.*, in the mountains: a form with ovate-lanceolate calyx-lobes; [Haiti!, Venezuela!, *Fendl.* 588].

26. RHACHICALLIS, *DC.*

Calyx-limb 4-partite, often with accessory teeth between the segments. *Corolla* salver-shaped: lobes 4, imbricative. *Stamens* included, inserted below the corolla-throat. *Stigma* 2-fid. *Capsule* loculicide: seeds wingless.—Low, diffuse, narrow-leaved shrubs; leaves *fleshy, furrowed on the back*: stipules *sheathing*; flowers *solitary, sessile.*

68. **R. rupestris,** *DC.* Leaves approximate-decussate, surrounded at the base by the stipular sheath, oblong, pointed, shining: stipules broadly deltoid, mucronate, ciliate; flowers axillary; calyx-segments linear, alternating with as many teeth; corolla villous.—*Sl. t.* 202. *f.* 1; *Jacq. Amer. Pict. t.* 18.—Hedyotis americana, *Jacq.* H. rupestris, *Sw.* Buchnera, *Sw.*—½'–3' high: branchlets thickened: leaves 2'''–4''' long: stipules brown, marcescent; corolla yellow, 3''' long.—HAB. Bahamas!, *Swains.*, on maritime rocks; Jamaica!, *Pd.*, along the coast of S. Anns; [Cuba!, Neveza; Bermudas (*Sw.*)].

SUBTRIBE 7. ***HEDYOTEÆ.—Corolla-lobes valvate. Fruit dry, 2-celled.***—**Stipules connecting the petioles, usually divided into bristles. Stem herbaceous.**

27. OLDENLANDIA, *L.*

Calyx-teeth 4, distant on the fruit. *Corolla* short, infundibular or rotate: lobes valvate. *Stamens* inserted into or near the corolla-throat (or diœciously near the corolla-base). *Capsule* thin, loculicide at the top: seeds minute, angular, not hollowed.—Peduncles *usually filiform, axillary.*

69. **O. corymbosa,** *L.* Annual, glabrous or glabrescent; stem slender, branched; leaves lanceolate or linear, 1-nerved, tapering into the sheath: stipular bristles about 3; pedicels 5–2, filiform, umbellate or corymbose, usually shorter than the peduncle, or fascicled (if the peduncle is wanting); *corolla-lobes as long as the tube*; anthers ovoid; capsule truncate, subglobose: teeth lanceolate, acuminate.—*Desc. Fl.* 1. *t.* 50 (*exclus. radice*).—Hedyotis Burmanniana, *Br.*: the East Indian form with 3–1-flowered peduncles.—Leaves 1'', corolla 1''', seeds ⅛''' long; flowers white.—HAB. Jamaica!, *Al.*, a weed in cane-fields; S. Kitts!, *Els.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!; [Martinique!, *Sieb. Mt.* 46; Guiana! to Brazil!; trop. Africa!; East Indies!].

70. **O. herbacea,** *DC.* Annual, glabrous; stem slender, flaccid; leaves lanceolate or linear-lanceolate, acuminate, 1-nerved: stipular bristles several, or reduced; pedicels subsolitary, filiform, usually exceeded by the leaves; *corolla-lobes half as long as the tube*; anthers ovoid; capsule globose, contracted at the commissure: teeth lanceolate, acuminate.—*Rheed. Mal. t.* 35.—O. tenuifolia, *Forst.!* Hedyotis Heynii, *Br.*—Leaves 1''–2'' long, longer and broader in the West Indian than in the common East Indian form; pedicels 8''' long. My West Indian specimens have lost their corolla.—HAB. Trinidad!, *Pd.*, *Cr.*, along rivulets; [Haiti!, Portorico!; Mexico! to Brazil!; Pacific islands!; East Indies!].

28. LUCYA, *DC.*

Calyx-limb with 4 (–5) principal and as many secondary segments. *Corolla* rotate: lobes 4, valvate. *Stamens* of *Oldenlandia*. *Capsule* thin, loculicide at the summit: seeds peltate, hollowed on their inner face.—A small, filiform, diffuse *or* cæspitose herb; flowers *white, solitary, shortly peduncled in the superior axils.*

The seeds are those of *Houstonia*, from which *Lucya* is distinguished by the accessory calyx-teeth and the short corolla-tube.

71. **L. tuberosa,** *DC.*—*Sw. Obs. t.* 1. *f.* 2: good. *Jacq. Amer. Pict. t.* 103: corolla wrong.—Peplis tetrandra, *L.* Hedyotis tuberosa, *Sw.*—A few inches high, perennial by small ovoid tubers on the root-branches, hairy by scattered down, or glabrescent; leaves petioled, membranaceous, ovate-roundish, or elliptical 2‴–6‴ long; calyx pilose: segments ½‴ long, nearly as long as the corolla-tube.—Hab. Jamaica (*P. Br.*), on rocks and among mosses, in dry woods; [Cuba !, Haiti].

Subtribe 8. *SPIGELIEÆ.—Corolla-lobes valvate. Fruit dry, superior, 2-celled.*—Stipules connecting the petioles, simple; stem herbaceous.

29. MITREOLA, *L.*

Calyx 5-partite: tube adhering to the base of the ovary. *Corolla* infundibular; lobes 5, valvate. *Styles* 2, united above, at length separating. *Capsule* free above the calyx-tube, 2-horned: lobes dehiscent along the ventral suture: seeds minute, scrobiculate.—Flowers *white, unilateral, in terminal scorpioid cymes.*

72. **M. petiolata,** *Torr.*, *Gray.* Annual, glabrous; leaves membranaceous, ovate-oblong or ovate-lanceolate, petioled; flowers subsessile, subcontiguous on the cyme-branches; *capsule* obversely deltoid or ovate: *lobes erect, diverging at the base.*—Petioles of variable length; capsule 2‴ long, 2-lobed to the middle. The East Indian *M. oldenlandioides*, Wall. (Hook. Ic. t. 827) is scarcely distinct.—Hab. Jamaica !, *Pd.*, *Al.*, in pastures and morasses, S. Marys, Hanover; [Haiti ! to Martinique; Texas ! to Venezuela !].

73. **M. paniculata,** *A. DC.* (*non Wall.*). Annual, glabrous; leaves membranaceous, elliptical-oblong, pointed, petioled; flowers subsessile, distant on the cyme-branches; *capsule* small, lunate-globose: *lobes incurved*, bluntish.—*Hook. Ic. t.* 828.—M. petiolata, *Benth. ex parte.*—Capsules 1‴ diam., 2‴ distant from each other.—Hab. Trinidad !, *Cr.*, *Pd.*, in waste places, S. Anns; [Goyaz !].

30. SPIGELIA, *L.*

Calyx 5-partite. *Corolla* infundibular. lobes 5, valvate. *Style* simple, jointed near the middle. *Capsule* free, at length separating from the indurated disk, didymous: carpids dehiscent along the dorsal line.—Flowers *in unilateral, scorpioid spikes or racemes.*

74. **S. anthelmia,** *L.* Annual, glabrous; leaves ovate-lanceolate: pairs distant, 2 uppermost approximate; spikes in the uppermost axils: flowers many, distant; capsule muricate, exceeding the calyx.—*Br. Jam. t.* 37. *f.* 3; *Tuss. Fl.* 4. *t.* 8; *Desc. Fl.* 1. *t.* 61.—Corolla purplish.—Hab. Jamaica !, *Dist.*, *M'Nab, March, Wils.*, a weed, and cultivated; Dominica !, *Imr.*, S. Vincent !, *Guild.*; Trinidad !, *Cr.*; [Cuba ! to Brazil !].

Tribe II. *COFFEACEÆ.—Ovary-cells* 1-*ovulate.*

Subtribe 1. *GUETTARDEÆ.—Ovules pendulous. Seeds exalbuminous, mostly cylindrical, operculate with the enlarged funiculus: radicle long, with short cotyledons. Pericarp drupaceous. Corolla-lobes mostly imbricative.*—Inflorescence usually axillary.

31. GUETTARDA, *Vent.*

Calyx-limb truncate or obsoletely denticulate, at length deciduous. *Corolla* salver-shaped, externally pubescent: lobes 6–4 (–9), imbricative. *Anthers* linear, subsessile below the corolla-throat, wholly included, rarely subincluded. *Stigma* capitate. *Drupe* 6–3(–9)-

celled: endocarp large, with the cells distant from the surface, and as narrow as the seed.—Woody plants; stipules *mostly deciduous;* peduncles *axillary, 2-fid, rarely simple and few-flowered at the top:* flowers *sessile on the inner side of their spiciform or contracted branches, one between them.*

Sect. 1. GUETTARDARIA, *DC.—Drupe smooth, globose or ovoid: cells straight. Calyx-limb tubular, subentire or lacerate at the top.*

* *Corolla-tube cylindrical.*—Trees.

75. **G. longiflora,** *Gr. (n. sp.).* *Leaves* large, ovate, cordate or bluntish at the base, glabrescent, or glabrate between the veins beneath, muricate or hispidulous on the veins, repand: *quaternary veins approximate-reticulated:* stipules ovate-lanceolate, with the petioles and peduncles pubescent; peduncles exceeding the petiole: flowers approximate on their short branches: *bracts lanceolate-linear,* exceeded by the truncate calyx-limb; *corolla-tube* cylindrical ($1\frac{1}{2}''$ long), slightly curved, 8–10 *times as long as the calyx,* tomentose: lobes 5–6, hairy within; recurved point of the anthers exserted.—Allied to *G. macrantha,* Benth., in which the corolla is still longer and the minute network in the leaves is wanting. The drupe is still unknown.—Leaves $8''$–$5''$ long, $5''$–$3''$ broad: petiole $2''$–$1''$ long; calyx $2''$ long.—HAB. Jamaica!, *March;* [Cuba!].

76. **G. argentea,** *Lam.* *Leaves* cordate or subcordate, glabrous above, *silvery-sericeous,* or at length glabrate *beneath:* quaternary veins inconspicuous: stipules deltoid-subulate; peduncles sericeous, exceeding half the leaf: *flowers* approximate, 4–8 on their short 2-fid branches, *ebracteate;* calyx-limb lacerate-repand at the top; *corolla-tube* cylindrical, ($8'''$–$14'''$ long), often curved, 4–6 *times as long as the calyx,* tomentose: lobes 6, pubescent within; anthers wholly included; drupe globose, tomentose, veiny, 3–6-seeded.—*Br. Jam. t.* 20. *f.* 1; *Lam. Ill. t.* 154, *fig. sin. sup.*—G. ambigua, *DC.*—A tree, $30'$–$40'$ high; leaves $3''$–$6''$ long, $2''$–$4''$ broad: transverse secondary veins not prominulous beneath; calyx $2\frac{1}{2}'''$ long; drupe $3'''$ diam.—HAB. Jamaica!, *Macf., Al., Wils., March,* common in the eastern districts; [Guadeloupe, Guiana].

77. **G. scabra,** *Lam.* *Leaves* elliptical or oblong-elliptical, crenulate-repand, mucronate, subcordate at the base, *scabrous,* at length rugose *above, tomentose beneath:* primary and secondary veins prominent beneath, quaternary inconspicuous: stipules subulate; peduncles tomentose, often as long as the leaves: branches contracted; *bracts lanceolate,* exceeded by the lacerate-repand calyx-limb; *corolla-tube* cylindrical ($5'''$–$12'''$ long), slightly curved, 3–4 *times as long as the calyx,* villous-tomentose: lobes 6–5 (–7), puberulous; drupe globose, puberulous, slightly rugulose, 3–6-seeded.—*Lam. Ill. t.* 154, *fig. sin. inf.; Vent. Choix, t.* 1.—Matthiola, *L.* G. rugosa, *Sw.* G. viburnoides, *Cham.*—A small tree; leaves $5''$–$2''$ long, $3''$–$1''$ broad: petiole of variable length; calyx $2'''$–$3'''$ long; corolla white; drupe $3'''$ diam.—HAB. Bahamas!, *Swains.;* Jamaica!, *Macf., Wils., Pd.,* Manchester, at $3000'$ alt.; Antigua!, *Wullschl.,* Dominica!, *Imr.,* S. Vincent!; [Cuba!, French islands!, *Sieb., Mart.* 58; Yucatan!, Brazil!].

78. **G. elliptica,** *Sw.!* *Leaves* elliptical, elliptical-roundish, or elliptical-lanceolate, hispidulous and glabrate above, *pubescent with serial hairs along the veinlets beneath:* quaternary veins inconspicuous: stipules lanceolate, acuminate; peduncles pubescent, exceeded by the leaf: branches contracted, few-flowered: *bracts lanceolate,* exceeded by the repand or lacerate calyx-limb; *corolla-tube* cylindrical ($3'''$ long), *thrice as long as the calyx,* sericeous: *lobes* 4, slightly puberulous within; drupe globose, velvety, glabrescent, slightly rugulose, 4–2-seeded.—A small tree; leaves $2''$ long, $2''$–$8'''$ broad: petiole $1'''$–$3'''$ long; calyx $1'''$ long; drupe $2'''$ diam.—HAB. Jamaica!, *Sw., Macf., March, Wullschl.,* in dry soil, along the seashore; [Florida!, Mexico!, Cuba!].

** *Corolla-tube filiform or clavate.*—Shrubs.

79. **G. odorata,** *Lam.* *Leaves* elliptical or elliptical-oblong, *glabrous, pubescent on the veins beneath:* network of the veinlets with many serial meshes: stipules subulate; peduncles pubescent, often as long as the leaf: branches contracted, sub-3-flowered: *bracts linear,* deciduous, half as long as the truncate calyx; *corolla-tube filiform* ($6'''$–$8'''$ long), 4–6 *times as long as the calyx,* pubescent: lobes 5 (–6); drupe globose, velvety, glabrescent 5-seeded.—*Jacq. Amer. Pict. t.* 259. *f.* 16; *Lam. Ill. t.* 154, *fig. dextr. inf.; Kth.*

N. Gen. t. 292.—Laugeria, *Jacq.*, *Lœfl.* G. parviflora Hænkeana, *DC. sec. Hb. Bartl.!* G. xylosteoides, *Kth.*—A shrub, 12′–15′ high: habit of *Chomelia;* leaves 2½″–1″, petiole 4‴–2‴ long; corolla pale-red; drupe 3‴ diam.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Pd.*, *Cr.;* [Mexico! to Venezuela and Guiana!].

80. **G. parvifolia,** *Sw.* *Leaves* small, ovate or lanceolate, *glabrous, sericeous on the principal veins* (rarely wholly) *beneath:* network of the veinlets irregular: stipules ovate, mucronate, persistent; peduncles puberulous, nearly as long as the leaf: branches 3–1-flowered: *bracts minute;* calyx-limb truncate or lacerate; *corolla-tube clavate* (3‴ long), *thrice as long as the calyx,* puberulous: lobes 5(–6); drupe globose, velvety, 5-seeded.—G. parviflora, *V. sec. Schlecht.:* the proportions of the corolla and calyx does not agree.—A diffuse shrub; leaves shortly petioled, 12‴–4‴ long; corolla white; drupe 2‴ diam.: calyx-limb tardily deciduous.—HAB. Antigua!, *Nichols.*, *Wullschl.*, Montserrat, Dominica!, *Imr.;* [S. Croix to Guadeloupe!, Venezuela!].

Sect. 2. ULOLOBUS, *DC.*—*Drupe tetraquetrous. Calyx-limb short, minutely 4–5-denticulate.*

81. **G. crispiflora,** *V.* *Leaves* large, ovate or elliptical, *glabrescent or pubescent on the curved primary veins beneath:* stipules large, ovate, menbranaceous, strigose within; peduncles deeply 2-fid: flowers numerous, distant: *bracts minute,* much shorter than the oblong calyx-tube; *corolla* tomentose: *tube clavate* (6‴ long), 5–6 *times as long as the calyx:* lobes 5, lacerate-undulate, glabrous within; *drupe* shortly oblong, *acute-angled,* 4-seeded.—*Vahl, Eclog. t.* 6.—G. membranacea, *Sieb. Mart.* 57! (*non Sw.*).—A slender shrub, 10′ high; leaves 5″–12″, petioles 1″–3″, stipules 1″, drupe 3‴ long.– HAB. Jamaica!, *Dancer;* Montserrat, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [French islands!].

32. STENOSTOMUM, *G.*

(Laugeria, *V.*, *Sw.*, *G.*, *non Jacq.*)

Calyx-limb 5–4-dentate or subtruncate, persistent on the fruit. *Corolla* salver-shaped: lobes 5–4, short, imbricative. *Anthers* linear, subsessile below the corolla-throat, included or half-exserted. *Stigma* capitate. *Drupe* 2–6-celled: endocarp-cells as narrow as the cylindrical seeds.—Woody plants; inflorescence *of* Guettarda.

The only difference between *Stenostemum* and *Guettarda* results from the calyx-limb crowning the fruit in the former, though in the latter genus it be often tardily deciduous. The testa (Gærtner's albumen) is rather more tumid in *Stenostomum;* but this is only a character of degree. Gærtner's analysis of *Laugeria* (in contradistinction of *Stenostomum*), viz. a minute embryo in the axis of albumen in *S. resinosum*, is probably erroneous, as in my nearly allied *S. viscosum* I find the operculum-like arillus and long embryo of *Guettardeæ*, as figured by Gærtner in his *S. lucidum*.

Sect. 1. EUSTENOSTOMUM.—*Ovary* 2(–4)-*celled. Flowers ebracteate. Stipules deciduous.* —**Trees, devoid of resinous excretions.**

82. **S. bifurcatum,** *DC.* *Leaves* elliptical, glabrous, *puberulous on the primary veins and their axils beneath:* stipules ovate-oblong; peduncles 2-fid above the middle: branches recurved: *flowers approximate;* calyx oblong, sericeous: limb tubular, obsoletely 5-lobed-repand; *corolla-tube* clavate (3‴ long), *strigose:* lobes 5, glabrous within; anthers included; drupe oblong, bluntish.—Malanea, *Desr.*—A timber-tree; leaves 4″–3″ long, exceeding the peduncles; drupe 4‴–3‴ long.—HAB. Jamaica!, *Pd.*, *M'Nab*, *March*, in woods, Manchester near Spitzbergen, S. Anns.

83. **S. tomentosum,** *DC.* *Leaves* elliptical, glabrous above, *velvety-tomentose beneath:* primary veins prominulous beneath: stipules lanceolate; peduncles once or twice 2-fid about the middle: branches recurved: *flowers distant;* calyx oblong, puberulous: limb short, 5-dentate; "corolla-tube clavate: lobes 5; anthers included; drupe oblong, acuminate, 2-celled."—Laugeria, *Sw.!*—A low tree; leaves 4″–3″ long, nearly equalling the peduncles.—HAB. Jamaica!, *Sw.*, in the western districts.

84. **S. nitidum,** *DC.* *Leaves* elliptical or elliptical-oblong, *glabrous: primary veins prominulous beneath:* stipules ovate-lanceolate; peduncles once or twice 2-fid about the middle: branches recurved: flowers numerous, subdistant; calyx minutely oblong, glabres-

cent: limb shortly tubular, repand-entire; *corolla glabrous.*—Malanea, *Lam.*—A small tree; leaves 3‴–4‴ long.—HAB. Jamaica!, *Sw.;* [Cuba!].

85. **S. lucidum,** *G. Leaves* elliptical or elliptical-oblong, blunt, *shining-glabrous: veins not prominulous beneath:* stipules lanceolate-subulate; peduncles once or twice 2-fid below or at the middle: branches slender: flowers distant; *calyx turbinate,* glabrous: limb longer than the tube, *with* 5 *roundish* ciliolate *lobes;* corolla-tube glabrous, clavate (3‴ long): lobes 5, roundish; *anthers half-exserted;* drupe ellipsoidal-oblong, contracted below the calyx-limb, 2-celled.—*Vahl, Symb.* 3. *t.* 57.—Laugeria, *Sw.*—A small tree; leaves chartaceous, 3″–2″ long, equalling the peduncles; corolla white; drupe 3‴ long below the crown, black.—HAB. Jamaica!, *Macf.;* S. Lucia!, *Masson;* Trinidad; [Cuba!, Haiti!, S. Croix, Guadeloupe].

86. **S. acutatum,** *DC. Leaves* elliptical, pointed, *glabrous:* primary veins delicate, prominulous beneath: stipules lanceolate, pointed; peduncles once or twice bifid about the middle: branches recurved: flowers subdistant; *calyx* minute, *linear-oblong,* glabrous: *limb* as long as the tube, 4-*fid* to the middle, *with narrow* acuminate *lobes;* corolla-tube filiform-clavate, slightly puberulous (3‴ long): lobes 4, short, oblong; anthers included; drupe ellipsoidal-oblong, pointed, 2-celled.—Leaves rigid, 5″–2″ long; drupe 4‴ long.—HAB. S. Vincent!, *Guild.;* [Guadeloupe!].

87. **S. coriaceum,** *Gr.* "*Leaves* elliptical, bluntish, glabrous, *veinless:* stipules acuminate; peduncles once or twice bifid: flowers distant; *calyx* 4-*dentate:* teeth blunt; corolla-tube glabrescent (6‴ long): lobes 4, short, roundish; anthers included; *drupe* oblong, bluntly acuminate, 4-*celled.*"—Laugeria, *V.* Guettarda, *Pers.*—A low tree.—HAB. Montserrat (*V.*), in high mountains; [Guadeloupe].

Sect. 2. LAUGERIA, *V.*—*Ovary* 4–6-*celled. Flowers supported by minute bracts. Stipules persistent.*—Resinous-viscid, low trees or shrubs.

88. **S. resinosum,** *Gr.* Leaves oblong-lanceolate, shortly acuminate, glabrous, viscid above: *stipules connate-sheathing* within the petioles, subtruncate, ciliate; peduncles shortly 2-fid, as long as the leaves: flowers serial, subdistant; *calyx* minute, *turbinate-oblong: limb short, truncate-repand;* corolla-tube filiform-clavate, glabrous, (3‴ long): lobes 5 (–"4"); anthers included; "drupe 4–5-celled."—*Vahl, Eclog. t.* 10. *fig.* 6: *analyt.*—Laugeria, *V.* Guettarda, *Pers.*—8′ high; leaves 4″–3″ long.—HAB. Montserrat (*V.*), in high mountains, Dominica!, *Imr.;* [Portorico, Trinidad].

Guettarda viscosa, Duchass., Walp., which I had reduced to *S. resinosum,* proves a distinct species:

S. viscosum, Gr. Leaves oblong-lanceolate, with a bluntish point, reticulated-veiny, glabrous, viscid above (2″–1″ long); *stipules distinct,* subulate: peduncles shortly 2-fid, puberulous, as long as the leaves: branches few-flowered; *calyx oblong: limb as long as the tube, unequally* 5-*partite,* with linear segments; corolla-tube filiform-clavate, slightly puberulous (3‴ long): lobes 5, spathulate-oblong; anthers included; drupe ellipsoidal, 5–6-celled: cells excentrical, separated by thin dissepiments.—HAB. Désirade, a small island near Guadeloupe, on the calcareous seashore: *Duchass.!*

89. **S. myrtifolium,** *Gr.* (*n. sp.*). Leaves small, elliptical, reticulated-veiny, glabrous, viscid above: *stipules distinct,* deltoid; *peduncles simple,* 3-*flowered,* exceeded by the leaves: flowers approximate, sessile; *calyx oblong; limb as long as the tube, truncate;* corolla-tube filiform-clavate, glabrous, (4‴ long): lobes 5, oblong, rounded: anthers oblong.—Leaves 6‴–8‴ long, slightly pointed, rounded at both ends: petiole 1‴ long, thickish, equalling the viscid stipules.—HAB. Bahamas!, *Swains.*

33. CHOMELIA, *Jacq.*

Calyx-limb 4-fid or 4-dentate, persistent. *Corolla* salver-shaped: lobes 4, narrow, induplicative. *Anthers* linear, subsessile below the corolla-throat, included, or with the point exserted. *Stigma* 2-fid. *Drupe* 2(–1)-celled: cells of the endocarp distant, as narrow as the cylindrical seeds.—Shrubs, *often with spinescent branches;* stipules *persistent;* flowers *in contracted, peduncled, axillary cymes.*

90. **C. fasciculata,** *Sw.!* Branches hairy, spinescent; *leaves ovate-roundish,* shortly

pointed, *glabrous:* petiole short; *peduncles* filiform, glabrous, as long as or exceeding the leaves, usually *3-flowered:* flowers sessile; calyx-limb deeply 4-fid: lobes oblong-linear, blunt, often unequal; *corolla-tube filiform,* clavate above, hairy, 5–6 times as long as the oblong blunt lobes; anthers included.—12′ high; leaves 12‴–6‴, corolla-tube 5‴–6‴ long. A good West Indian specimen, without special locality, exists in Herb. Hook.: that I have compared with the original one in the British Museum. *Ch. spinosa,* Jacq., has much longer corolla-lobes and short peduncles.—Hab. Grenada!, *Masson,* in hedges.

34. CHIONE, *DC.*

Calyx-tube clavate: limb short, 5-lobed, persistent. *Corolla* shortly campanulate-infundibular, 5-lobed: lobes roundish, imbricative. *Stamens* exserted: filaments inserted above the corolla-base: anthers incumbent. *Stigma* capitate, minutely 2-lobed. *Drupe* 2-celled: endocarp somewhat ruminate, with the cells distant, as narrow as the cylindrical seeds.—Glabrous trees *or* shrubs; *leaves leathery: stipules deciduous;* flowers *in peduncled, terminal, trichotomous, fastigiate cymes.*

91. **C. glabra,** *DC.* *Leaves lanceolate-oblong,* bluntish, smooth above, veiny with delicate veins beneath: stipules ovate-lanceolate; cymes many-flowered: alar flowers subsessile; corolla 5-lobed to one-third; anther linear, elongated, longer than the filaments.—Sacconia, *Endl.* Psychotria megalosperma, *V. sec. DC.* Jacquinia venosa, *Sw.!*—A timber-tree; leaves resembling those of *Viburnum Tinus,* variable in breadth, 4″–3″ long; calyx-limb ½‴ long, repand with rounded lobes; corolla 2‴, anthers 1½‴ long; drupe ellipsoidal-oblong, truncate at the top, 8‴–6‴ long.—Hab. Montserrat, Dominica!, *Imr.,* S. Lucia!, *Anders.;* [Guadeloupe!, *Hb. Sw.*]. In Cuba three new species of *Chione* were discovered by Wright.

35. PHIALANTHUS, *Gr.* (*n. g.*).

Calyx-tube clavate: limb 4-partite. *Corolla* shortly campanulate-infundibular, 4-lobed: lobes ovate, blunt. *Stamens* exserted: filaments distinct, inserted near the corolla-base: anthers ovoid, erect. *Style* simple: stigma bluntish. *Drupe* 2-celled: endocarp with a thin dissepiment: seeds cylindrical.—A resinous-viscid, glabrous shrub; leaves *small, veinless, revolute on the margin:* stipules *connate-sheathing within the petioles, persistent;* flowers *glomerate, in minute, sessile, axillary or lateral clusters.*

The character, though not yet quite complete, shows this genus to be nearly related to *Scolosanthus,* while from its resinous excretions *Stenostomum,* sect. *Laugeria,* is analogous.

92. **P. myrtilloides,** *Gr.*—Leaves spathulate or obovate, 5‴–8‴ long, shortly petioled: stipular sheath short, subtruncate, covered with resin; calyx-tube ⅔‴ long: lobes as long, spathulate-linear; corolla 1‴ long and broad, as long as the filaments; ovary 2-celled: ovules pendulous, single in each cell; style filiform, as long as the stamens. The drupe is unripe, but a sketch (in Herb. Hook.) shows a structure analogous to that of *Stenostomum.*—Hab. Bahamas!, *Swains.*

36. SCOLOSANTHUS, *V.*

Calyx-tube ellipsoidal-oblong: limb 4-partite. *Corolla* salver-shaped: tube 4-gonal: lobes 4, short, imbricative, 2 exterior. *Stamens* included: filaments monadelphous at the base, free from the corolla-base, hairy below: anthers long, linear, erect. *Style* simple, with the linear stigma-branches cohering. Drupe "2-celled, or 1-celled by abortion."—A glabrous shrub, *sometimes spinescent, and resembling in foliage* Randia aculeata; leaves *leathery, shining, veinless, opposite, often 4–6-fascicled by reduced axillary branches: stipules short, sheathing at the base, deciduous, with the remaining sheath marcescent;* flowers *shortly pedicellate, clustered in the axils, purplish-yellow.*

93. **G. versicolor,** *V.*—*Vahl, Eclog. t.* 10: *analyt.*—Ixora multiflora, *Sw.*—2′–3′ high; leaves obovate-roundish or elliptical, pointed or blunt, 8‴–2″ long: midrib impressed above; calyx-tube 1‴ long: lobes much shorter, dentiform; corolla 3‴ long, narrow; drupe "white."—Hab. Jamaica!, *Al., March;* [Portorico, S. Croix].

37. STRUMPFIA, *Jacq.*

Calyx-tube ovate: limb 5-partite, persistent. *Corolla* rotate, deeply 5-partite: segments

oblong-lanceolate, slightly imbricative. *Anthers* subsessile, wholly connate, nearly free from the corolla-base, forming an ovate-oblong column, membranaceous at the top, a little exceeded in length by the corolla-segments. *Style* bifid: branches contiguous. *Drupe* ellipsoidal, 2–1-celled: seeds ovoid-oblong, hanging, operculate with a basilar arillus.—A low, leafy shrub, *resembling in foliage* Rosmarinus; leaves 3 *in the whorl, thickish-linear, revolute on the margin, puberulous, deciduous:* stipules *persistent;* flowers *hoary-pubescent, clustered on short axillary peduncles, subsessile, bracteolate.*

The anomalous structure of the column, described by De Candolle, must have been a monstrosity; for I find 10 anther-cells, regularly arranged in a single row.

94. **S. maritima,** *Jacq.—Desc. Fl. t.* 208.—2′–3′ high; leaves 4‴–8‴ long; calyx-teeth minute, deltoid, bluntish; corolla small, white.—HAB. Bahamas!, *Swains.*, on maritime rocks; Turk Islands!, *Hjalmars.*; [Cuba!, Guadeloupe!].

SUBTRIBE 2. *CHIOCOCCEÆ.—Ovules pendulous. Seeds albuminous: embryo small, included. Pericarp fleshy. Corolla-lobes imbricative.*—Inflorescence axillary.

38. ERITHALIS, *P. Br.*

Calyx-tube ovate: limb short, subtruncate or denticulate, persistent. *Corolla* rotate, deeply 5-partite: segments slightly imbricative. *Stamens* 5 (–10), exserted: filaments free from the corolla-base, hairy below: anthers linear. *Stigma* blunt: lobes 5 or more, minute, agglutinated. *Drupe* globose, furrowed, 5–10(–20)-pyrenous: pyrenæ and seeds compressed. *Embryo* in the top of the fleshy albumen.—Glabrous, resinous shrubs *or* low trees; leaves *leathery:* stipules *apiculate, connate-sheathing within the petioles, persistent;* flowers *white, in peduncled, axillary (or supra-axillary), trichotomous, fastigiate cymes.*

This genus is not very nearly related to *Chiococca*, but may be regarded as a link between it and *Chione*. A nearer affinity, evident from habit and fleshy albumen, is said to exist with *Psathura*, to which however erect ovules are ascribed.

95. **E. fruticosa,** *L.* Leaves obovate or spathulate-lanceolate, blunt (or bluntish), shining, shortly petioled; *calyx-limb repand-subtruncate;* corolla-segments oblong-linear or lanceolate-oblong; carpids 10 (20–6).—*Desc. Fl.* 4. *t.* 242.—Variable in the breadth of the leaves, and the length of the mucro on the stipules.

α. Leaves 2″–3″, corolla 2‴–3‴ long: segments oblong-linear; anthers (1‴ long) shorter than the filament.—*Br. Jam. t.* 17. *f.* 3.—Usually shrubby, 2′–3′ high.

β. odorifera, Jacq. Leaves broad, rounded at the top, 4″–3″ long; corolla 4‴ long: segments lanceolate-oblong; anthers (2‴ long) longer than or as long as the filaments.—*Jacq. Amer. Pict. t.* 260. *f.* 20: the flower.—A low tree, 15′–8′ high.

HAB. Bahamas!, *Swains.* (*β*); Jamaica!, all coll. (*α*), on maritime rocks, and on limestone hills in the interior; Antigua!, *Lane, Nichols., Wullschl.* (*α, β*), Dominica!, *Imr.* (*β*), S. Lucia!, *Anders.*, S. Vincent!, *Guild.*; Trinidad!, *Anders.*; [Cuba!, Portorico!, Guadeloupe!; Key West!, Honduras!].

96. **E. angustifolia,** *DC.* Leaves elliptical-lanceolate or lanceolate, acuminate at both ends; *calyx-limb* 5-*dentate:* teeth deltoid; corolla-segments ovate-lanceolate; carpids 5–6 (–" 9 ").—Leaves 4″–3″ long, 1″ broad.—HAB. S. Vincent!, *Guild.*; [Cuba].

39. CHIOCOCCA, *P. Br.*

Calyx-tube ovate: limb 5-dentate, persistent. *Corolla* infundibular: lobes 5, slightly imbricative. *Stamens* included, rarely exserted: filaments usually hairy, free from the corolla-base, shortly monadelphous: anthers linear. *Stigma* clavate, with 2 agglutinated lobes. *Berry* roundish, compressed, 2(–3)-pyrenous: seeds compressed. *Embryo* axile in cartilaginous albumen.—Scandent *or* trailing, glabrous shrubs; stipules *apiculate, connate-sheathing within the petioles;* flowers *yellowish-white, in axillary, racemiform cymes.*

97. **C. racemosa,** *Jacq.* Leaves chartaceous, elliptical or ovate-lanceolate, shortly cuneate at the base: stipules mucronate, points shorter than or as long as their sheath; *racemes as long as their leaves,* usually compound: bracts 2-dentate at the base; calyx-teeth deltoid; corolla 5-lobed to or beyond one-third: lobes ovate-lanceolate; *anthers wholly in-*

cluded within the corolla-tube; berry orbicular.—*Sl. t.* 188. *f.* 3; *Jacq. Amer. Pict. t.* 69; *Desc. Fl.* 4. *t.* 292.—4′–10′ high; berry white, 3‴–2‴ diam.

α. *Jacquiniana.* Leaves elliptical, pointed (1″–2½″ long); racemes oblong; corolla cleft beyond one-third.

β. *laxiflora*, DC. Leaves ovate-lanceolate, acuminate, with a bluntish point (3″–1½″ long); racemes usually 3-partite-pyramidal; corolla cleft to one-third.—*Kl. and Guimp. Arzn.* 1. *t.* 3.—Stem scandent.

γ. *longifolia*, DC. Leaves oblong or ovate-oblong, apiculate-acute (3″–2″ long); racemes oblong; corolla 5-fid nearly to the middle.—C. caracasana, *Kl.!* C. anguifuga trinitensis, *DC. ex Sieb. Tr.* 38.

HAB. Bahamas!, *Swains.*; Jamaica!, all coll. (β; α *sec. Sl.*); Antigua!, *Wullschl.* (γ), Dominica; Trinidad!, *Sieb.*, *Cr.* (β, γ); [Bermudas!, Florida!; Cuba! (α, β) and Mexico! to Uruguay!; Galapagos!].

98. **C. parvifolia,** *Wullschl. MS.* Leaves small, ovate or ovate-oblong, with a bluntish point, shortly cuneate at the base: stipules subulate, points longer than their sheath; *racemes* lax, simple, *twice or more exceeded by the leaves:* bracts 2-dentate at the base; calyx-teeth deltoid-ovate, bluntish; corolla 5-lobed to one-half (or one-third): lobes lanceolate or ovate-lanceolate; *points of the anthers exceeding the corolla-tube;* berry orbicular.—C. racemosa, var., *Sw. Obs.* C. racemosa, *Sieb. Mart.* 33.—In *C. phænostemon*, Schlecht., the anthers are longer exserted. A high climber (*P. Br.*): branches usually horizontal; leaves 8‴–1″ (–2″) long; berry 2‴ diam.—HAB. Jamaica!, *Wullschl.*, *March;* Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [Portorico!, Martinique!; Panama!, Venezuela!].

SUBTRIBE 3. *VANGUIERIEÆ.—Ovules pendulous. Seeds albuminous: embryo small, included. Pericarp fleshy. Corolla-lobes valvate.*—Inflorescence axillary.

40. MALANEA, *Aubl.*

Calyx-limb narrow, 4-dentate. *Corolla* salver-shaped or subrotate: lobes valvate. *Stamens* exserted, inserted near the corolla-throat: anthers oval. *Stigma* 2-lobed. *Drupe* "2-celled: seeds cylindrical, pendulous."—High, climbing *or* erect shrubs; leaves *arch-veined:* veins *prominent beneath:* stipules *deciduous;* flowers *clustered, bracteolate, in axillary, trichotomous panicles.*

99. **M. sarmentosa,** *Aubl.* Branches climbing, with the panicles rusty-tomentose; *leaves* obovate, *rugose* with impressed veins above, *rusty-tomentose beneath:* stipules ovate-oblong, bluntish; flowers sessile; *corolla* puberulous: *lobes* ovate, pointed, *as long as the tube,* villous-bearded within.—*Aubl. t.* 41.—Leaves 4″–7″ long; corolla blue: beard whitish.—HAB. Trinidad!, *Lockh.*, on woody hills, Arima; [Guiana!].

100. **M. macrophylla,** *Bartl.!* (*MS. in Rich. Schom. Fl. Guian. p.* 947). Erect; branches glabrescent; *leaves* elliptical, shortly pointleted, *smooth, glabrous* or glabrate beneath: stipules obovate-oblong, rounded at the top; panicles hoary-sericeous: flowers sessile; *corolla* pubescent: *lobes* ovate-oblong, blunt, *about half as long as the tube,* villous within.—A shrub; leaves 8″–3″ long; corolla-tube 2‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Cr.*, at S. Anns; [Guiana!].

SUBTRIBE 4. *IXOREÆ.—Ovules laterally attached. Seeds albuminous: embryo included. Pericarp fleshy. Corolla-lobes contorted.*

41. IXORA, *L.*

(Siderodendron, *V.*)

Calyx-limb 4–5-dentate. *Corolla* salver-shaped: tube slender: limb contorted. *Anthers* exserted, inserted into the corolla-throat. *Stigma* 2-fid, or lobes agglutinated. *Berry* smooth subglobose, 2-celled: seeds concave on the inner side, affixed to the middle of the dissepiment. *Embryo* curved: radicle inferior: cotyledons foliaceous.—Woody plants; stipules *apiculate, persistent;* flowers *in axillary or terminal corymbs.*

101*. **I. Bandhuca,** *Roxb.* Shrubby, glabrous; leaves oval-oblong, subcordate-sessile,

rounded at the top: stipules subulate; corymbs subsessile, contracted, terminal; *corolla* red: *tube* filiform (1½" long), 3–4 *times as long as the oval, bluntish lobes;* stigma subincluded; berry "crowned with the open calyx-limb."—*Wight, Ic.* 1. *t.* 149.—Leaves 2"–3" long.—HAB. Naturalized in S. Kitts!, Trinidad (*Sieb.*); [introduced from the East Indies].

102*. **I. tenuiflora,** *Roxb.* Glabrous; leaves oblong, pointleted, shortly petioled: stipules mucronate-sheathing; corymbs peduncled, contracted, terminal; *corolla* pale: *tube* filiform (2" long), 6–8 *times as long as the oblong, bluntish lobes;* stigma long-exserted.—Leaves 8' long.—HAB. Naturalized in Jamaica!, *Wils.*; [introduced from the Moluccan islands].

103*. **I. Pavetta,** *Roxb.* Glabrous or puberulous above; leaves oblong, petioled: stipules deltoid, mucronate, superior often sheathing at the base; corymbs trichotomous, pyramidal, terminal, and axillary: flowers fastigiate in the branches; *corolla* white: *tube filiform, clavate* (4‴ long), *about half as long again as the oblong lobes;* stigma long-exserted.—*Wight, Ic.* 1. *t.* 148.—Pavetta indica, *L.*—Leaves 6"–4" long, variable.—HAB. Naturalized in Jamaica!, *March;* [introduced from the East Indies!].

104. **I. ferrea,** *Benth.* Arboreous, glabrous; leaves oblong, pointed, shortly petioled: stipules subulate; *corymbs axillary* or lateral, *sessile,* contracted, *few-flowered; corolla* rosy: *tube filiform-clavate* (4‴ long), 3–4 *times as long as the oval lobes;* stigma subincluded.—*Jacq. Amer. Pict. t.* 259. f. 7: *the flower.*—Sideroxyloides, *Jacq.* Siderodendron triflorum, *V.*—30' high; leaves 6"–4" long.—HAB. Antigua!, *Nichols.*, Dominica!, *Imr.*, S. Lucia!, S. Vincent!, *Anders.*; [Martinique!, in mountain woods; Veraguas!, Venezuela!, Guiana!].

42*. COFFEA, *L.*

Calyx-limb 5(–4)-dentate. *Corolla* salver-shaped: tube cylindrical-infundibular: limb contorted. *Stamens* inserted into or below the corolla-throat: anthers linear. *Stigma* 2-fid. *Berry* smooth, ovoid, 2-celled: seeds attached to the middle of the dissepiment, with a longitudinal furrow on the inner flat side. *Embryo* of *Ixora,* but straight.—Woody plants; stipules *of* Ixora; flowers *clustered in the axils.*

105*. **C. arabica,** *L.* Shrubby or arboreous, glabrous; leaves oblong, pointleted: stipules subulate; flowers pedicellate; corolla 5-lobed to or beyond the middle: lobes oblong; anthers and style exserted.—*Tuss. Fl.* 1. *t.* 18; *Desc. Fl.* 8. *t.* 564.—C. guianensis, *Sieb. Tr.* 33, 34 (*vix Aubl.*): apparently a form with a 4-cleft corolla.—HAB. Cultivated in the hills at 3000'–6000' alt., and naturalized in Jamaica!, Antigua!, to Trinidad!; [introduced from eastern trop. Africa].

SUBTRIBE 5. *PSYCHOTRIEÆ.—Ovules erect (rarely attached above the base). Seeds albuminous: embryo included. Pericarp fleshy. Corolla-lobes valvate.*

43. FARAMEA, *Rich.*

Calyx-limb produced, truncate, or 4-dentate. *Corolla* salver-shaped: lobes 4, valvate. *Stamens* inserted into the corolla-tube: anthers linear, sessile. *Stigma* 2-fid. *Ovary* 2-ovulate: ovules erect, contiguous in a single cell, or separated by a thin or incomplete dissepiment. *Berry* globose or ovoid, dry, chartaceous, smooth, 1-seeded by abortion: seed often umbilicated at the base.—Glabrous shrubs or trees; flowers *white, in corymbiform or umbelliform, trichotomous, terminal and axillary cymes.*

106. **F. odoratissima,** *DC.* Leaves subcoriaceous, elliptical or oblong, pointleted, petioled: stipules rounded, shorter than their elongated dorsal awn; corymbs lax: *pedicels* ternate, ebracteate, *longer than the truncate calyx;* corolla-lobes linear, from a lanceolate base, nearly as long as the cylindrical tube; *anthers included;* ovary 1-celled; berry globose.—*Br. Jam. t.* 6. *f.* 2; *Jacq. Amer. Pict. t.* 68; *Tuss. Fl.* 2. *t.* 16.—Coffea occidentalis, *Jacq.* Antoniana laurifolia, *Tuss.* F. montevidensis borealis, *DC.* (*ex specim. Hostm. a Benth. cit.*): the longer calyx-limb crowning the fruit proves a variable character.—6'–8' high; leaves 8"–3" long, variable; corolla-tube 6‴ long: limb subulate in the bud; berry 4‴ diam.—HAB. Jamaica!, all coll.; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! and Mexico! to Venezuela! and Guiana!].

107. **F. Martini,** *DC.* Leaves chartaceous, elliptical, or elliptical-oblong, pointleted, petioled: stipules rounded, with a deciduous, short mucro; corymbs contracted: *pedicels* clustered, ebracteate, *shorter than the truncate calyx;* corolla-lobes oblong-linear, as long as the cylindrical tube; *anthers* long, *half-exserted;* ovary 1-celled.—*Vahl, Eclog. t.* 10. *f.* 3: *analyt.*—Billardiera (*s.* Frœlichia) paniculata, *V.* Coussarea Frœlichia, *Rich.*—A fragrant tree (*Pd.*): habit of *F. contracta,* Walp.—Leaves 6″–4″, corolla-tube 2‴ long.—Hab. Trinidad!, *Pd.*, in the mountains of S. Anns; [Guiana].

44. RUDGEA, *Salisb.*

Calyx-limb 4–5-partite, rarely 4–5-fid, persistent. *Corolla* salver-shaped: lobes valvate, often corniculate at the top. *Stamens* inserted into the corolla-tube: anthers incumbent, usually exserted. *Stigma* 2-fid. *Ovary* 2-celled: cells 1-ovulate: ovules erect. *Drupe* 2-celled, smooth, or subangular from the putamen being 3-cristate in each cell: seeds cylindrical, filling up the woody cells. *Albumen* fleshy.—Woody plants; leaves *often minutely pellucid-dotted: stipules cut above: the upper portion deciduous, the broad base persistent;* flowers *clustered on the branches of trichotomous terminal panicles, or clusters single, peduncled.*

The character of the seed is drawn only from a single fruit-specimen, referred with some confidence to *R. caribæa.*

108. **R. caribæa,** *Benth.!* Glabrous; *leaves* leathery, elliptical or lanceolate-oblong, acuminate, *tapering into a slender petiole;* panicle trichotomous: flowers 3–5-nate (or single by abortion): *bracteoles* minute, subulate, *shorter than the calyx-tube; corolla glabrous, villous within:* lobes oblong-linear, corniculate, as long as or longer than the clavate tube; filaments long-exserted; drupe ovoid-oblong: putamen 3-cristate on each side.—Psychotria citrifolia, *Sw.!* Pavetta pentandra, *Sieb.!* (*non Sw.*).—A shrub (*Duch.*); leaves 5″–4″, corolla-tube 2‴–3‴, drupe 8‴ long. Specimens occur with monstrous, or abortive, or contracted flower-heads, as large as a pea, resembling *Cephaelis,* but exinvolucrate.—Hab. Jamaica (*Benth.*); Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Guadeloupe!, in mountain woods; Martinique!, *Sieb. Mart.* 274].

109. **R. Hostmanniana,** *Benth.!* Glabrous; *leaves* leathery, elliptical or oblong, with a bluntish point, *blunt at the petioled base;* panicle trichotomous: flowers 5–3-nate, sessile: *bracteoles* ovate-lanceolate, *as long as the calyx-tube; corolla glabrescent, pilose within:* lobes oblong-linear, corniculate, as long as or longer than the cylindrical tube; filaments long-exserted.—Leaves 5″–6″, thick petiole 2‴–3‴, corolla-tube 2‴ long.—Hab. Trinidad!, *Lockh.*, *Cr.*, at S. Anns; [Guiana!].

45. RONABEA, *Aubl.*

Calyx-limb produced, minutely 5-denticulate. *Corolla* salver-shaped: tube clavate: limb slightly reduplicate. *Stamens* included, inserted into the corolla-tube: anthers oblong. *Stigma* 2-fid. *Ovary* of *Rudgea.* *Berry* ovoid, smooth, 2-celled: seeds flat on the inner side.—Shrubs; leaves *large, arch-veined:* stipules *subulate;* flowers *glomerate in the axils.*

110. **R. latifolia,** *Aubl.* Glabrous or pubescent; leaves elliptical or oblong, pointleted, cuneate at the base: stipules short, with a long, subpersistent mucro; clusters equalling the petiole or exceeded by it; corolla-lobes oblong, bluntish, pilose within, one-third as long as the tube.—*Aubl. t.* 59.—Psychotria axillaris, *W.* Coffea subsessilis, *Benth.*—Branches subcompressed; leaves 6″–4″ long, black in drying; corolla-tube 2‴ long, thrice as long as the calyx-limb.—Hab. Trinidad!, *Cr.*, at Tocuche; [Guiana, Venezuela!].

46. PSYCHOTRIA, *L.*

Calyx-limb persistent, with 5 (–4) small teeth or segments, rarely subentire. *Corolla* infundibular, or nearly so: tube short: lobes 5 (–4), valvate. *Stamens* inserted into the corolla-tube. *Stigma* 2-fid. *Ovary* of *Rudgea.* *Berry* 2(–3)-pyrenous, mostly furrowed from the chartaceous pyrenæ being 5–3-cristate. *Albumen* cartilaginous.—Usually shrubby plants; flowers *mostly in terminal panicles.*

Sect. 1. NOTOPLEURA, *Benth.—Pyrenæ compressed from the back*, 3-*cristate: lateral crests contiguous to the angles of the commissure. Albumen flat-compressed, devoid of furrows.*—Stem herbaceous, large-leaved: stipules single: upper part deciduous, leaving a persistent, connate-sheathing base.

111. **P. uliginosa,** *Sw.!* Glabrous or glabrescent, somewhat succulent; leaves obovate or elliptical, usually pointleted, costate-veiny, long-petioled: stipules pointed; *panicles axillary*, trichotomous: flowers clustered, bracteolate; calyx-limb 5-dentate; corolla villous at the throat; anthers linear; berry ovate, at length nearly smooth.—P. lævis, *DC.*—Habit of *Patima.* A suffrutescent herb, 2′–3′ high; leaves 10″–6″, petiole 2″ long; axillary panicles short: peduncle 3″ long or none; flowers small, pale-red; berry crimson.

α. Glabrous; leaves pointleted; panicles long-peduncled.

β. discolor, Sm. ined. Leaves oval, rounded at the top, acute at the base: under side of the midrib and subsessile panicles puberulous.

HAB. Jamaica!, all coll., in wet places (*α*, *β*); Dominica!, *Imr.*, S. Lucia; Trinidad!, *Cr.*; [Cuba!; Central America, Guiana!].

Sect. 2. MAPOURIA, *Benth.—Pyrenæ half-terete*, 5(–3)-*cristate: crests equidistant. Albumen furrowed between the crests, flat with* 2 *minute, or no furrows on the commissural side.*—Stipules single, deciduous from or near the base. Panicles terminal: flowers minutely bracteolate.

In the West Indian species the corolla is villous at or below the throat, and the anthers are oblong; exserted and included stamens occur in the same branch.

* *Stipules distinct, wholly or above.*

112. **P. grandis,** *Sw.!* *Herbaceous, suffrutescent*, glabrous; leaves large, obovate, pointed, cuneate towards the shortly petioled base, costate-veiny: *stipules broadly ovate-subulate, tardily deciduous*, membranaceous, slightly cohering at the base, as long as the petiole; *panicle* large, *peduncled*, trichotomous, with accessory branches, slightly puberulous: flowers clustered: calyx-limb minutely denticulate; berry "ovate."—12′–15′ high; leaves 15″–8″, stipules 10‴–8‴, corolla 2‴ long; panicle often terminal between two branches.—HAB. Jamaica!, *Al.*, *Wils.*, among mountain shrubs, *e. g.* near Bath.

113. **P. Mapouria,** *R. S.* *Suffrutescent*, glabrous; leaves large, elliptical, shortly petioled, costate-veiny: *stipules broadly ovate, blunt*, membranaceous; *panicle* large, *peduncled*, trichotomous, with accessory branches; flowers clustered; calyx-limb minutely denticulate; berry "ovoid-globose."—*Aubl. t.* 67.—7′–8′ high; leaves 6″–8″, stipules 6‴, corolla 2‴ long.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Guiana!].

114. **P. floribunda,** *Kth.* *Shrubby*, glabrous; leaves leathery, oblong, costate-veiny. *stipules oblong, blunt*, membranaceous, deciduous, with the short base marcescent; *panicle* trichotomous, with accessory branches, *peduncled*, slightly puberulous above: flowers clustered; calyx-limb subentire; *corolla-lobes shorter than the tube; berry ovoid*: pyrenæ minutely 2-furrowed at the commissure.—25′–5′ high; leaves 8″–3″, petiole 4‴–10‴, stipules 4‴–8‴, corolla 2‴ long; flowers white; berry yellowish.—HAB. Dominica!, *Imr.*; [Guadaloupe!, in damp woods; Martinique!, *Sieb. Mart.* 77; New Granada].

115. **P. dura,** *Sm. ined.* (*in Hb. Bks.*). *Shrubby*, glabrous; leaves leathery, shining above, elliptical or oblong, costate-veiny beneath: *stipules broadly ovate, blunt*, membranaceous, deciduous, with the short base marcescent; *panicle* trichotomous, with accessory branches, *peduncled*, slightly puberulous above: flowers clustered; calyx-limb shortly 5-lobed; *corolla-lobes shorter than the tube; berry ovoid*: albumen 2-furrowed at the commissure.—Leaves 5″–2½″, petiole 4‴–8‴, stipules 4‴–6‴, corolla 2‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, *Al.*, *March*, in woods, Manchester, S. Anns.

116. **P. marginata,** *Sw.!* *Shrubby*, glabrous; leaves chartaceous, lanceolate-oblong or oblong, pointed, gradually tapering into the petiole, costate-veiny: *stipules oblong*, blunt or *bluntish*, membranaceous, deciduous; *panicle* lax, trichotomous, *peduncled*: flowers pedicellate; calyx-limb minutely 5-dentate; *corolla-lobes as long as the tube; berry subglobose*: pyrenæ minutely 2-furrowed at the commissure.—3′–4′ high; leaves black in drying, 6″–3″, petiole 10‴–4‴, stipules 6‴–3‴, corolla 1¼‴ long.—HAB. Jamaica!, *Sw.*, *M'Nab*, *March*, in woods.

117. **P. glabrata,** *Sw.* *Shrubby*, glabrous; leaves chartaceous, elliptical, costate-veiny: *stipules* distinct, *ovate*, *obtusate*, membranaceous, deciduous, with the basilar hairs persistent; *panicle* trichotomous, *peduncled*: flowers shortly pedicellate; calyx-limb 5-dentate; *corolla-lobes nearly as long as the tube; berry ovoid-globose*: pyrenæ flat; albumen slightly 2-furrowed at the commissure.—P. laurifolia, *Sw.*: a form with the leaves tapering at the base.—4′–5′ high; leaves black in drying, 4″–2½″, petiole 4‴–2‴, stipules 1‴–3‴, corolla 2‴ long; berry 2‴ diam.—Hab. Jamaica!, *March*, in rocky hills; Antigua!, *Wullschl.*; [Cuba!].

118. **P. tenuifolia,** *Sw.* *Shrubby*, glabrous; leaves somewhat leathery or chartaceous, elliptical or oblong, costate-veiny: *stipules* broad, distinct, *bifid, with subulate lobes*, deciduous, with the basilar hairs persistent; *panicle* trichotomous, shortly peduncled, or *subsessile*: flowers clustered; calyx-limb 5-fid: *corolla-lobes as long as the tube; berry ellipsoidal*: pyrenæ flat, albumen 2-furrowed at the commissure.—P. glabrata, *Sieb. Mart.* 73 (*non Sw.*).—3′–4′ high, resembling *P. Brownei*; leaves glaucous-black in drying, variable, blunt or pointed at both ends, often with hair-tufts in the vein-axils beneath, 3″–7″, petiole 4‴–12‴, stipules 4‴–5‴, corolla 1‴, berry 3‴–4‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *M'Nab*, *Wullschl.*, in woods: Antigua!, *Wullschl.*; [Cuba! to Martinique!].

119. **P. Brownei,** *Spreng.* *Shrubby*, glabrous; leaves somewhat leathery, elliptical or lanceolate-elliptical, blunt or bluntish at both ends, costate-veiny: *stipules connate-sheathing below*, ovate or roundish, blunt or bluntly mucronate, deciduous, with the basilar hairs persistent; *panicle* trichotomous, *lax*, *spreading*, sessile, or peduncled: flowers clustered; calyx-limb short, minutely 5-dentate; *corolla-lobes shorter than the tube; berry ellipsoidal*: pyrenæ flat, albumen slightly 2-furrowed at the commissure.—*Br. Jam. t.* 17. *f.* 2.—P. asiatica, *Lam.* P. fœtens, *Sw.*, *partim*: a form with lanceolate-elliptical leaves.—Leaves glaucous-black in drying, 4″–3″, petiole 6‴–4‴, stipular sheath 2‴–1‴, corolla 2‴ long; berry 2‴–2½‴ long, 1‴ broad.—Hab. Jamaica!, *M'Nab*, *Al.*, *Macf.*, *Dist.*, *March*, *Wullschl.*, in woods and along rivers; [Portorico, S. Thomas].

120. **P. androsæmifolia,** *Gr.* (*n. sp.*). *Shrubby*, glabrous; *leaves leathery*, lanceolate-oblong, bluntly acuminate: *veins distant, delicate: stipules connate-sheathing below*, ovate, blunt, with the basilar hairs persistent; *panicle* peduncled, 3-rayed, cymose, *fastigiate*: flowers clustered, alar ones shortly pedicellate; calyx-limb short, minutely 5-denticulate; *corolla-lobes shorter than the tube; berry ellipsoidal*: pyrenæ 4-furrowed between the broadly obtuse crests: commissure flat, with the albumen 2-furrowed.—Leaves glaucous, smooth, 4″–3″ long, 1″ broad, tapering into the short petiole; stipules 2‴, corolla 2‴ long; berry 2½‴ long, 1½‴ broad.—Hab. Jamaica!, *March*.

** *Stipules combined-sheathing, often dimidiate.*

121. **P. celastroides,** *Gr.* (*n. sp.*). Shrubby, *glabrous*; leaves chartaceous, elliptical or lanceolate-elliptical, pointed at both ends, costate-veiny: *stipules connate* or rumpent, often *dimidiate-sheathing, bluntly acuminate*, membranaceous, deciduous, with the basilar hairs persistent; *panicle peduncled*, usually 5-rayed (or trichotomous): flowers clustered; calyx-limb 5-dentate; *corolla-lobes half as long as the tube*; berry *ovoid-globose*: pyrenæ flat, albumen 2-furrowed at the commissure.—Allied in character to *R. Brownei*, but distinguished by thinner, often wavy-repand, light-green leaves, the deltoid calyx-teeth, and chiefly by the shape of the berry. Leaves 3″–1″, petiole 2‴–3‴, stipules 2‴–3‴, corolla 2‴ long; berry 2‴ long, 1½‴–2‴ broad.—Hab. Jamaica!, *Wullschl.*; [Cuba!].

122. **P. dasyophthalma,** *Gr.* (*n. sp.*). Shrubby, *glabrous, but with rusty-villous stipules*; leaves chartaceous, lanceolate-oblong, pointed, costate-veiny: *stipules* connate, *dimidiate-sheathing*, ovate or ovate-lanceolate, *bluntly acuminate*, membranaceous, deciduous, with the basilar hairs persistent; *panicle peduncled*, trichotomous: flowers clustered; calyx-limb minutely 5-denticulate; *corolla-lobes half as long as the tube; berry ellipsoidal*: pyrenæ flat at the commissure.—Nearly allied to *P. hirsuta*, but having glabrous leaves and branches: the berry remains to be compared. Leaves black in drying, tapering towards the base, 4″–2½″, petiole 5‴–3‴, stipules 3‴–6‴, corolla 1½‴ long; berry 3‴ long, 1½‴ broad.—Hab. Jamaica!, *Wullschl.*, Manchester, at Fairfield.

123. **P. hirsuta,** *Sw.* Shrubby; *branches rusty-pilose*, with jointed, spreading hairs; leaves chartaceous, lanceolate-oblong, acuminate, arch-veined, glabrate above, pilose on the

nerves beneath: *stipules* connate, *dimidiate-sheathing*, oblong, *acuminate*, rusty-hispid, deciduous; *panicle peduncled*, lax, trichotomous, exceeding the leaves: flowers clustered; calyx-limb minutely 5-denticulate; *corolla-lobes shorter than the tube*.—R. villosa, *R. P.* (*Fl. Peruv. t.* 207) *sec. Bartl.*—A large, spreading shrub; leaves black in drying, 5″–3″ long, 15‴–12‴ broad; petioles 6‴–4‴, stipules 8‴–4‴, white corolla 2‴ long.—HAB. Jamaica! *Wils.*; [Peru! *Pœpp.* 1568].

124. **P. undata,** *Jacq.* Shrubby, *glabrous*; leaves chartaceous, elliptical, pointleted, costate-veiny: *stipules* large, connate, *dimidiate-sheathing, obovate*, blunt, or emarginate, rusty-membranaceous, deciduous, with the short base marcescent; *panicle sessile*, trichotomous, much exceeded by the leaves: flowers clustered; calyx-limb minutely 5-denticulate or subentire; *corolla-lobes shorter than the tube; berry ellipsoidal:* pyrenæ flat, albumen with 2 large furrows at the commissure.—P. nervosa, *Sw.!* P. stipulacea, *Sw.!* P. oligotricha, *DC.*: a form with the vein-axils pilose beneath.—Nearly allied to *P. rufescens*, Kth., but usually broader-leaved and the branches perfectly glabrous. Leaves rusty-green in drying, tapering at the base, 5‴–3‴ long, 2″–1″ broad; petioles 6‴–4‴, stipules 9‴–6‴, corolla 2½‴ long; flowers white; anthers equalling the corolla-lobes, included in other flowers; berry 3‴ long, 1½‴ broad.—HAB. Bahamas; Jamaica!, all coll., along roadsides.

125. **P. rufescens,** *Kth.*, *Bartl.!* Shrubby, *rusty-pubescent above*; leaves chartaceous, lanceolate-elliptical, acuminate, costate-veiny, glabrate above, hispidulous or glabrate between the nerves beneath: *stipules* connate or rumpent, *dimidiate-sheathing, obovate*, often pointed, 2-fid, rusty-membranaceous, deciduous, with the short base marcescent; *panicle sessile*, trichotomous, exceeded by the leaves: flowers clustered; calyx-limb minutely 5-dentate; *corolla-lobes shorter than the tube; berry ellipsoidal:* pyrenæ flat, albumen 2-furrowed at the commissure.—P. portoricensis, *DC.*—Leaves rusty-green in drying, tapering at the base, 4″–2½″ long, 1½″–1″ broad; petioles 2‴–5‴, stipules 6‴–3‴, corolla 2‴ long; berry of the preceding.—HAB. Jamaica!, *Macf.*, *Al.*, *March*, *Wullschl.*, in woods; Antigua!, *Wullschl.*; [Cuba!; Mexico! to New Granada].

126. **P. lanceolata,** *Nutt.* Shrubby, glabrous, or slightly rusty-hairy above; leaves chartaceous, lanceolate, rarely lanceolate-elliptical, costate-veiny, glabrous above, glabrate beneath: *stipules* connate or rumpent, *dimidiate-sheathing, obovate-roundish*, often emarginate with blunt lobes, rusty-membranaceous, deciduous, with the short base marcescent; *panicle sessile*, trichotomous, exceeded by the leaves: flowers clustered; calyx-limb minutely 5-denticulate or subentire: *corolla-lobes shorter than the tube; berry ovoid, rounded at both ends*.—P. chimarroides, *DC. ex Sieb. Tr.* 236: from Florida specimens, reduced to Nuttall's species.—Less hairy than the preceding, leaves usually narrow, and berry of different shape. Leaves 4″–2″ long, 12‴–8‴ broad, rusty in drying, tapering into a short petiole; stipules 5‴–3‴, corolla 2½‴ long; anthers often exserted; berry 2‴ long, 1‴ broad.—HAB. Bahamas!, *Swains.*; Jamaica!, *Al.*; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb.*; [Florida!; Cuba!, French islands!].

Sect. 3. MAPOURIOPSIS.—*Pyrenæ smooth, involute at the commissure. Albumen campylospermous, overlapping the projection of the pyrenæ.*—Stipules deciduous, leaving a very short base. Panicles terminal: clusters distant, minutely bracteolate, most terminal on spreading branches.

127. **P. fœtida,** *Gr.* Shrubby, glabrous, variegated-glaucous; branches cylindrical, smooth; leaves chartaceous, ovate-oblong, bluntish, rounded at the base: veins costate, distant: persistent base of the stipules rusty-hairy; panicle peduncled, lax: branches 5–3-nate; calyx-limb 5-dentate, at length 5-partite; corolla-lobes twice shorter than the tube; anthers oblong; *berry smooth*, ellipsoidal-oblong, crowned with the calyx-limb.—P. fœtens, *Sw.*, *partim*: Shakspeare's specimen (in Hb. Bks.) belongs to this, Swartz's own (in Hb. Stockh.) to *P. Brownei*.—Leaves 8″–3″ long, 4″–1½″ broad, shining, glaucous-black in drying, variegated with dark spots beneath: petiole 2″–½″ long; panicle as long as the leaves: clusters many-flowered, usually 6‴–12‴ distant from each other; corolla 1¼‴, berry 3‴ long.—HAB. Jamaica!, *Pd.*, *Al.*, *Wils.*, rare on shady rocks, S. Katherine's, S. Anns, S. Thomas J. E.

Sect. 4. EUPSYCHOTRIA.—*Pyrenæ involute by a large furrow at the commissure, 5–3-cristate or -angled, rarely smooth. Albumen of* Mapouriopsis.—Stipules persistent, geminate or 2-fid. Panicles terminal: flowers clustered.

* *Bracts large, exceeding the calyx.* (Nonatelia, *Sw.*)

128. **P. brachiata,** *Sw.!* Shrubby, glabrous; branches slightly 4-gonal; leaves chartaceous, elliptical-oblong or lanceolate-oblong, pointed, arch-veined: *stipules* united at the base, *each shortly 2-fid, persistent; panicle* peduncled, hairy: *branches* spreading, 3-*clustered* and involucrate at the top: *bracteoles ovate,* shortly exceeding the calyx; corolla glabrescent within: lobes puberulous, shorter than the infundibular tube; anthers oblong, included; berry ovoid, crowned with the subentire calyx-limb: pyrenæ 5-cristate.—P. capitellata, *DC.?*—6′–8′ high; leaves 4″–5″, petioles 3‴–6‴, stipules 3‴, corolla 2½‴ long; flowers straw-coloured; berries indigo-blue.—HAB. Jamaica!, all coll., in woods; Trinidad!, *Lockh.;* [Cuba!].

129. **P. arcuata,** *Benth.* Shrubby; branches slightly compressed-4-gonal, puberulous or glabrate; leaves chartaceous, elliptical-oblong, pointed: veins costate, numerous: *stipules* united at the base, *two on each side, linear-acuminate,* nearly as long as the petioles, persistent; panicle peduncled, corymbiform-trichotomous: *bracteoles oblong-linear,* exceeding the calyx; corolla glabrous, pilose within: lobes shorter than the clavate tube; anthers linear, included.—Leaves 7″–5″, petioles 6‴–3‴, stipules 6‴–4‴, corolla 2½‴ long.—HAB. Trinidad!, *Lockh., Sch.;* [Guiana!].

** *Bracteoles small or inconspicuous.*

130. **P. pubescens,** *Sw.* Shrubby; *branches* cylindrical, smooth, *constricted below the nodes, puberulous;* leaves membranaceous, elliptical or lanceolate-oblong, costate-veiny, puberulous beneath: *stipules* united at the base, 2 *or several on each side, subulate, as long as their sheath,* persistent; panicle peduncled, pubescent, pyramidal: branches terminated with cymules and sessile alar flowers: *bracteoles linear, shorter than the calyx;* corolla with hair-tufts at the throat: lobes shorter than the tube; anthers linear; *berry* roundish, contracted at the commissure, *smooth:* pyrenæ 4-angled.—P. scabriuscula, *Bartl.!*—10′–12′ high; leaves 6″–4″ long, variable: stipules 1‴ long above the sheath; corolla greenish-straw-coloured; berry 2‴ broad.—HAB. Jamaica!, all coll., common; [Cuba!, Mexico!, Panama!].

131. **P. pedunculata,** *Sw.* Shrubby or arboreous, glabrous below the puberulous panicle; branches slightly compressed-4-gonal; leaves membranaceous, elliptical-oblong, pointed, arch-veined: *stipules* united, 2 *on each side,* small, *deltoid, shorter than their truncate sheath,* persistent; *panicle long-peduncled, corymbiform,* usually 5-rayed: peduncle as long as the leaves: branches terminated with cymules and sessile alar flowers: *bracteoles minute, lanceolate;* corolla slender, filiform-clavate, glabrous at the throat: lobes half as long as the tube; anthers linear; berry roundish, contracted at the commissure: pyrenæ 5-angled.—16′–20′ high; leaves 5″–3″ long; corolla yellow, 4‴ long; berry 3‴ broad.—HAB. Jamaica!, all coll., in mountain-woods; Barbadoes!, *Lane.*

132. **P. corymbosa,** *Sw.* Shrubby, glabrous; branches subcylindrical; leaves chartaceous, lanceolate or oblong-lanceolate, acuminate: veins distant: *stipules* united at the base, 2 *on each side,* small, *deltoid, longer than their annular sheath,* marcescent; *panicle* peduncled, trichotomous, *corymbiform: branches coloured,* terminated with cymules and subsessile alar flowers: *bracteoles lanceolate, shorter than the calyx;* calyx-limb 5(–4)-partite; corolla glabrous at the throat: lobes half as long as the campanulate tube; anthers linear; berry roundish, contracted at the commissure: pyrenæ 3–5-angled.—Leaves 3″–2″ long; corolla purple, 2½‴ long; berry purple, 2½‴ broad.—HAB. Jamaica!, all coll., in the Blue Mountains, from 4000′ upwards.

133. **P. patens,** *Sw.!* Shrubby, glabrous; branches cylindrical, subconstricted below the nodes; leaves chartaceous, elliptical-oblong or elliptical, pointed, arch-veined: *stipules* united at the base, 2 *on each side, linear-acuminate, much longer than their sheath,* persistent; *panicle long-peduncled, corymbiform: branches coloured,* terminated with scorpioid cymes and sessile alar flowers: *bracteoles* lanceolate-linear, *as long as* or a little exceeding *the calyx;* corolla glabrous at the throat: lobes half as long as the clavate tube; anthers linear; *berry*

roundish, contracted at the commissure, *transversely rugulose:* pyrenæ 5-angled.—Leaves 4″–3″, stipules 1‴–2‴ long above their sheath; corolla white, 2‴ long; berry black, 2‴–1‴ broad.—HAB. Jamaica!, *Sw.*, *Wils.*, in the mountains; [Cuba!].

134. **P. cornigera,** *Benth.!* Shrubby, glabrous; branches smooth, cylindrical or compressed-cylindrical, subconstricted below the nodes; leaves chartaceous, ovate or elliptical-oblong, pointleted, costate-veiny: *stipules* united at the base, 2 *on each side, subulate, longer than their sheath;* panicle sessile or shortly peduncled, corymbiform, often bearded at the ramifications; *cymes contracted: bracteoles setaceous, minute* or inconspicuous; *corolla* subcylindrical, villous at the throat: *lobes corniculate,* as long as the tube; *berry* biglobose, *smooth.*—Leaves 6″–4″, stipules 1‴ long above the sheath; corolla 1½‴ long; berry 2‴ broad.—HAB. Trinidad!, *Lockh.;* [Guiana!].

Sect. 5. STREMPELIA, *Benth.*—*Pyrenæ separating from each other in the axis, slightly incurved at the commissure, obsoletely 5-cristate, or 4-furrowed, or smooth on the back. Albumen devoid of furrows on the concave or flattish commissural side.*—Stipules subcartilaginous, wholly, or their sheath marcescent. Flowers in terminal, peduncled cymes.

135. **P. nutans,** *Sw.!* Shrubby, glabrous; *leaves membranaceous, lanceolate* or spathulate-lanceolate, bluntish, *arch-veined:* stipules small, cartilaginous, deltoid, 2 on each side or combined-rumpent; cyme 3-rayed, few-flowered: flowers clustered, minutely bracteolate; calyx-limb produced, subentire, longer than the tube; corolla-lobes one-third as long as the tube; *berry globose:* pyrenæ smooth or slightly 5-cristate.—Leaves 4″–2″ long, gradually tapering into the petiole; berries 2‴ diam., cernuous.—HAB. Antigua!, *Wullschl.;* [Cuba!, Haiti!].

136. **P. horizontalis,** *Sw.* Shrubby, glabrous, branches spreading; *leaves membranaceous, elliptical or elliptical-oblong,* pointed, *arch-veined,* bearded at the vein-axils beneath: stipules roundish, denticulate, single on each side, marcescent, with the teeth deciduous, at length cartilaginous; cyme twice 3-rayed, few-flowered: flowers clustered; calyx-limb produced, minutely denticulate, longer than the tube; *corolla* salver-shaped, *tranversely plaited at the glabrous throat:* lobes one-third as long as the tube; *berry ovate-globose,* at length nearly smooth.—3′–4′ high; leaves 1½″–3″ long; corolla-tube 2½‴ long; berries 2‴ diam., erect.—HAB. Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* [Haiti, on limestone, Guadeloupe;, Martinique!, *Sieb. Mart.* 76; Guiana!].

137. **P. parasitica,** *Sw.* Trailing-radicant, shrubby, glabrous; *leaves succulent,* ovate or ovate-lanceolate, pointed: *veins inconspicuous,* more approximate below the middle of the midrib: *stipules connate-tubular,* chartaceous; cymes trichotomous, few-flowered: flowers pedicellate, minutely bracteolate; calyx-limb 5-dentate, as long as the tube; *corolla* "pubescent at the throat:" *lobes acuminate, shorter than the tube; berry small, ovoid-globose:* pyrenæ nearly smooth.—*Jacq. Amer. Pict. t.* 73.—Branches subtetragonal above, hanging from old trees; leaves 2″–1″ long, rounded at the shortly petioled base; berry 1‴–1½‴ long, red.—HAB. S. Kitts, Montserrat, Dominica, S. Vincent!, *Guild.*, in mountain-woods; [Cuba!, Portorico!, French islands!].

138. **P. crassa,** *Benth.!* Trailing, shrubby or arboreous (*Perrot.*), glabrous; *leaves rigid, leathery,* elliptical or elliptical-oblong, pointed, margined: *veins inconspicuous,* more approximate below the middle of the midrib; *stipules connate-tubular,* chartaceous; cyme trichotomous, corymbiform: flowers pedicellate, minutely bracteolate: calyx-limb 4-dentate, shorter than the tube; *corolla* "bearded at the throat:" *lobes corniculate, nearly as long as the tube; berry-globose:* pyrenæ nearly smooth.—Nearly allied to the preceding.—Leaves black in drying, 3″–1″ long, subacute at the base; berry 2‴ diam.—HAB. Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba!, Guadeloupe!; Venezuela!, Guiana!].

139. **P. Myrtiphyllum,** *Sw.* Shrubby, diffuse, glabrous; *leaves small, chartaceous,* elliptical or lanceolate: *veins* distant, *delicate or inconspicuous: stipules* combined at the base, *deltoid-roundish,* chartaceous, deciduous, with a short base persistent; cyme trichotomous, as long as the leaves: *pedicels filiform, as long as the calyx;* calyx-limb 5-dentate, as long as the tube; corolla villous at the throat: lobes shorter than the clavate tube; berry "ovoid-oblong."—*Sl. t.* 209. *f.* 2.—A fragrant, little shrub, 1′–3′ high; leaves 1″ (18‴–6‴) long, bluntish or acuminate, shortly petioled; corolla whitish, 2‴ long; berry red.—HAB. Jamaica!, *Pd.*, *Al.*, *Wils.*, *March*, *Wullschl.*, Manchester, S. Anns; [Haiti!].

Of the other Swartzian *Psychotriæ*, three belong to *Palicourea*, and *P. citrifolia* is *Rudgea caribæa;* several West Indian species of authors are unknown to me, and their description too incomplete to be recognized: viz. *P. laxa* and *involucrata*, Sw., both neither found in his own nor in the Banksian collections; *P. Balbisiana*, DC., and *P. congesta*, Spreng.: all these came from Jamaica.

47. PALICOUREA, *Aubl.*

Character of *Psychotria*, but corolla oblique, often gibbous at the base or lobes unequal. —Flowers *in terminal, corymbiform, or thyrsoid panicles.*

Sect. 1. CROCOTHYRSUS.—*Pyrenæ 5-cristate, involute at the commissure. Albumen campylospermous, overlapping the projection of the pyrenæ.*

* *Stipules persistent, 2 on each side, all united in a basilar sheath ; flowers pedicellate.*

140. **P. umbellata,** *DC.* Glabrous; internodes cylindrical, uppermost tetragonal; leaves papery-membranaceous, elliptical-oblong or ovate, pointleted, petioled: *stipules* short, *subulate, as long as their sheath; panicle corymbiform; corolla powdery-glabrescent,* (2‴–3‴ long): tube clavate-cylindrical.—A shrub; leaves shining above: stipules 1‴ long; panicle 1″–2″ diam.: flowers white.—HAB. Trinidad!, *Pd., Cr.*; [Guiana!, *Miq. in Pl. Hostm.*].

141. **P. crocea,** *DC.* Glabrous; internodes cylindrical, or the uppermost subtetragonal; leaves chartaceous, elliptical or lanceolate-oblong, pointed, petioled: primary veins regularly curved: *stipules linear-acuminate, longer than their very short sheath; panicle* pyramidal, rarely corymbiform: *branches orange-coloured; corolla glabrous* (4‴–6‴ long): tube clavate-cylindrical; berry ovate-roundish, laterally subcompressed.—*Br. Jam. t.* 13. *f.* 1, 2: *analyt.*—Psychotria, *Sw.*—A shrub; stipules 1‴–2‴ long; corolla orange-coloured; stamens and style either exserted or subincluded, according to sexual distinctions of the flowers, as in *Psychotria.*

α. Leaves elliptical or elliptical-oblong; corolla 4‴ long, much gibbous at the base.—*P. croceoides*, Ham.?

β. tenuiflora. Leaves elliptical-lanceolate or lanceolate-oblong: stipules 1‴ long; corolla 4‴ long, slightly gibbous at the base.—Probably *P. coccinea*, DC.

γ. riparia, Benth.! Panicle corymbiform; corolla 6‴ long, gibbous at the base.—P. aurantiaca, *Miq.!* P. crocea, *Mey. Esseq.!*

HAB. Jamaica!, all coll. (*α, β*); St. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Sieb. Tr.* 28; [Cuba! (*β*), Haiti! (*β*), Portorico! (*α, β*), French islands! (*α, γ*); Guiana! (*α, γ*), Venezuela!, New Granada!].

142. **P. alpina,** *DC.* *Internodes tetragonal*, at length rounded on the angles; leaves chartaceous, elliptical-oblong, pointed, pilose on the ribs beneath, or glabrescent, petioled: primary veins parallel, slightly curved: *stipules lanceolate-linear or linear, nearly as long as the produced sheath;* panicle pyramidal; *corolla glabrous* (*rarely downy*), (6‴–8‴ long): tube subcylindrical, gibbous at the base: lobes ovate, short; berry ovate-conical, laterally subcompressed.—Psychotria, *Sw.!* P. mexicana, *Benth.!* P. crocea, *Schlechtend. in Pl. Schiede!*—A shrub, 5′–10′ high; stipules 1‴–2¼‴ long: sheath 1‴–2‴ long; corolla purplish-yellow (or "white"); berry 3‴ diam.—HAB. Jamaica!, all coll., common in the eastern mountains; Dominica!, *Imr.*; [Cuba!: a form with shaggy flowers, *i. e. P. eriantha*, DC.; Mexico! to Ecuador!].

143. **P. pulchra,** *Gr.* (*n. sp.*). Glabrous; *internodes cylindrical*, smooth: leaves chartaceous, elliptical-oblong or lanceolate-oblong, pointleted, petioled: primary veins curved: *stipules lanceolate-linear, longer than the short sheath;* panicle lax, corymbiform; *corolla glabrous* (1″–1½″ *long*): tube subcylindrical, ventricose-gibbous at the base, 6 times as long as the oblong, revolute-spreading lobes.—A beautiful shrub, 6′ high, the summit of which is drooping (*Al.*): confounded by Swartz (in the Bks. Coll.) with the preceding, but habit of a slender-flowered *Hamelia;* stipules 1‴ long; flowers often abortive; corolla rosy; style long-exserted: stigma minute, emarginate.—HAB. Jamaica!, all coll., in the woods of the interior, Manchester, S. Anns, at 1800′–2000′ alt.

** *Stipules deciduous, bidentate ; flowers ternately clustered.*

144. **P. Pavetta,** *DC.* Glabrous ; *internodes cylindrical*, smooth ; leaves membranaceous, lanceolate-oblong or elliptical-oblong, pointed, petioled : primary veins curved, distant : *stipules minute, subdistinct : lobes deltoid ;* panicle corymbiform : *flowers ternate*, subsessile at the top of its branches ; *corolla* glabrous, *salver-shaped :* tube (6‴ long) filiform-clavate, slightly curved : lobes unequal, oblong-lanceolate, subacute, one-third as long as the tube ; berry subglobose, laterally subcompressed.—*Plum. Ed. Burm. t.* 156. *f.* 1. *Sl. t.* 202. *f.* 2 : *bad.*—Psychotria, *Sw.* Pavetta pentandra, *Sw.!*—A shrub, 6′ high : habit of *Faramea*, but berry of *Crocothyrsus ;* flowers white, odorous.—HAB. Jamaica !, *Pd., Al., Wils., Wullschl.*, in mountain-woods, Hanover, Manchester, S. Anns ; Antigua !, *Wullschl. ;* [Cuba ! ; French islands !].

Sect. 2. STEPHANIUM.—*Berry globose, nearly smooth : pyrenæ flat at the commissure. Albumen orthospermous : test corrugate-loose.*—Stipules single in the axils, 2-lobed, united at the base, persistent.

145. **P. guianensis,** *Aubl.* Glabrous ; internodes cylindrical, uppermost subtetragonal ; leaves large, oval-oblong : veins costate : *petiole exceeding the shortly 2-lobed stipules ;* panicle thyrsoid, long-peduncled : flowers pedicellate, numerous ; *corolla pimpled-pubescent*, clavate (5‴–6‴ long) : lobes short, slightly unequal.—*Aubl. t.* 66.—Psychotria Palicourea, *Sw.*—A shrub or tree ; leaves 12″–5″, stipules 4‴–3‴ long ; flowers yellow ; berry 1½‴ diam.—HAB. Trinidad !, *Sch., Lockh., Cr.*, common in ravines ; [Panama !, Guiana !, equat. Brazil !].

48. CEPHAELIS, *Sw.*

Flowers of *Psychotria*, but capitate : receptacle involucrate, paleaceous. *Berry* 2-pyrenous : pyrenæ obtusely 5-ribbed *or* smooth. *Albumen* cartilaginous.—Shrubs *or* herbs ; stipules *connate-sheathing at the base, persistent ;* flower-heads single, usually terminal.

Sect 1. TAPOGOMEA, *DC.*—*Berry nearly smooth : pyrenæ and albumen flat, or slightly incurved at the commissure.*—Involucral bracts connate at the base, spreading, coloured.

146. **C. tomentosa,** *W.* Shrubby, shaggy on the younger parts ; internodes cylindrical ; leaves elliptical or elliptical-oblong, pointleted : *stipules* much longer than their sheath, 2 *on each side, lanceolate-subulate, long-acuminate ;* flower-heads terminal, peduncled : segments of the involucre large, cordate or ovate, pointed (or rounded), much exceeding the flowers.—*Aubl. t.* 61.—Tapogomea, *Aubl.*—Leaves 8″–4″, stipules 6‴ long : flower-head 12‴–6‴ diam. ; involucre crimson, flowers yellowish-white. A Bogotá specimen with long-exserted stamens proves the identity of *Carapichea* and *Cephaelis.*—HAB. Trinidad !, *Sieb. Tr.* 41, *Lockh., Sch., Cr.*, in moist woods ; [Mexico ! to Guiana !, equat. Brazil !, and Peru !].

147. **C. punicea,** *V.* (1796). Shrubby, glabrous ; internodes tetragonal, leaves elliptical-oblong, with a short, bluntish point : *stipules* as long as their sheath, *axillary, rounded, obtusely* 2-*lobed*, spreading ; flower-heads terminal, long-peduncled : segments of the involucre 2, large, broadly ovate, bluntish, much exceeding the flowers.—C. elata, *Sw.*—12′–15′ high ; leaves 6″–3″, stipules 2‴ long ; flower-head 8‴–6‴ diam. ; involucre purple.—HAB. Jamaica !, *Pd., March*, in high mountains ; [Guadeloupe ; New Granada !].

Sect 2. CALLICOCCA, *DC.*—*Pyrenæ obtusely* 5-*ribbed, involute at the commissure. Albumen campylospermous, overlapping the projection of the pyrenæ.*—Involucral bracts distinct or nearly so, as long as or shorter than the flowers.

148. **C. Swartzii,** *DC.* Shrubby, glabrous ; uppermost internodes tetragonal ; leaves elliptical-oblong, pointleted : *stipular sheath* truncate (or 2-fid), spreading, *many-awned*, with the awns rigid, deciduous ; *flower-heads terminal, peduncled :* bracts 5, ovate-roundish : paleæ rounded at the top or obsoletely lobed.—C. violacea, *Sw.* (*non Aubl.*).—Leaves 5″–3″, peduncle 1″ long ; flower-heads 5‴–10‴ diam. ; bracts, flowers, and berries blue.—HAB. Dominica !, *Imr.*, S. Lucia, in mountain-woods ; [Guadeloupe !, Martinique !, *Sieb. Mart.* 84].

149. **C. muscosa,** *Sw.* Shrubby or arboreous, glabrous; internodes cylindrical, uppermost subtetragonal; leaves shortly petioled, lanceolate-oblong or elliptical-oblong, acuminate: *stipular sheath* truncate, spreading, *with several* deciduous, *rigid awns; flower-heads terminal, subsessile:* bracts and paleæ quadrate-oblong, cut at the summit.—*Jacq. Amer. Pict. t.* 66.—Morinda, *Jacq.*—15′ high; leaves 4″–3″, peduncle 2‴ long or none; flower-heads 3‴–6‴ diam.; bracts pale-blue, flowers white, berries blue.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Pd.*, *Lockh.*, *Cr.*, in shady woods and ravines; [Martinique, Guiana!, equat. Brazil!].

150. **C. axillaris,** *Sw.* Shrubby, glabrous; internodes obtusely subtetragonal; leaves long-petioled, lanceolate-oblong or elliptical, pointleted: *stipules* as long as their sheath, *ovate, 2-lobed, awnless; flower-heads mostly axillary, sessile:* bracts roundish, exceeded by the flowers: paleæ obovate, lacerate and ciliate at the summit.—Leaves 5″–3″, petiole 12‴–6‴ long; flower-heads 6‴–10‴ diam.; berry subglobose: furrows between the convex juga narrow.—Hab. S. Kitts, Dominica!, *Imr.;* [Guadeloupe; New Granada!; Venezuela!; Guiana!].

49. MORINDA, *L.*

Calyx-limb short, denticulate, or subentire: tubes concrete. *Corolla* infundibular: lobes 5 (4–7), valvate. *Stamens* inserted into the corolla-tube. *Stigma* 2-fid. *Ovary* 2-celled: cells 1-ovulate: ovules erect or attached above the base. *Syncarpium* baccate. *Albumen* fleshy. *Radicle* inferior.—Woody plants; flower-heads *peduncled:* receptacle *globose.*

151. **M. Royoc,** *L.* Shrubby, glabrous or glabrescent: branches cylindrical; *leaves lanceolate-oblong,* pointed: *stipules subulate;* flower-heads small, single in the axils or terminal, exceeding in length the short peduncle; syncarpium globose.—*Jacq. H. Vind. t.* 16. *Desc. Fl.* 2. *t.* 129.—1′ high; leaves 3″–2″, peduncles 3‴–1‴ long; flowers white, odorous; syncarpium 4‴–6‴ diam.—Hab. Jamaica!, all coll., along the seacoast; [Cuba!, Haiti!].

152*. **M. citrifolia,** *L.* Arborescent, glabrous; branchlets tetragonal; *leaves elliptical,* large: *stipules roundish;* flower-heads leaf-opposed or axillary, nearly as long as their short peduncle; syncarpium subglobose.—M. macrophylla, *Desf.*—Leaves pointed or blunt, 6″–8″, peduncles 6‴–8‴ long; syncarpium 1″ diam.—Hab. Naturalized in Jamaica!, *March,* and in the Caribbean islands!; [introduced from the East Indies!].

50. GEOPHILA, *Don.*

Calyx-limb 5(–4)-partite: segments narrow, recurved-spreading. *Corolla* salver-shaped: lobes valvate. *Stamens* inserted into the corolla-tube, included. *Stigma* 2-fid. *Ovary* 2-celled: cells 1-ovulate: ovules erect. *Berry* 2-pyrenous, slightly angular. *Albumen* cartilaginous, flat at the commissure.—Creeping, radicant herbs; leaves *long-petioled, cordate:* stipules *single, undivided;* peduncles *terminal, bearing contracted, few-flowered, umbelliform cymes.*

153. **G. reniformis,** *Don.* *Leaves* as long as broad, rounded or bluntish at the top, *with a narrow basilar sinus,* glabrescent, glabrous beneath: petiole shaggy on the upper side; peduncles 3(–2–6)-flowered: bracts linear, acuminate, nearly as long as the pedicel.—*Jacq. Amer. Pict. t.* 67. *Tuss. Fl.* 1. *t.* 8.—Psychotria herbacea, *L.*—Flowers white, berry scarlet.—Hab. Jamaica!, *Pd.*, *Dist.*, *March,* in moist woods, creeping among roots; Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil!; Pacific islands!, East Indies!].

51. ERNODEA, *Sw.*

Calyx-limb 4–6-partite: segments lanceolate-acuminate. *Corolla* salver-shaped; lobes valvate. *Stamens* inserted into the corolla-tube, exserted. *Stigma* emarginate. *Ovary* 2-celled: cells 1-ovulate: ovules laterally attached. *Drupe* 2-pyrenous, smooth. *Albumen* cartilaginous, deeply furrowed at the flat commissure.—A decumbent, glabrous shrub; branches *tetragonal;* leaves *elliptical-lanceolate, rigid, sessile, pungent;* stipules *connate-sheathing, lobed;* flowers *sessile, single in the axils, yellowish.*

154. **E. litoralis,** *Sw.*—*Sl. t.* 189. *f.* 1, 2; *Sw. Fl. t.* 4. *f. inf.: analyt.*—Leaves ap-

proximate, margined, 3–5-nerved, 12‴–6‴ long; drupe subglobose, yellow, size of a pea.—Hab. Bahamas!, *Swains.*, *Hjalmars.*, in calcareous soil along the seacoast; Jamaica!, *Pd.*, S. Anns; [Florida! to Guadeloupe!].

Subtribe 6. *CEPHALANTHEÆ.—Ovules pendulous. Seeds albuminous: embryo included. Pericarp dry. Corolla-lobes imbricative.*—Inflorescence contracted.

52. MACHAONIA, *Bonpl.*

Calyx-limb 5–4-partite. *Corolla* infundibular: lobes slightly imbricative. *Stamens* inserted into the corolla-throat: anthers oval. *Stigma* bluntly 2-fid. *Fruit* dicoccous, obcuneate-prismatical: cocci indehiscent, coriaceous, separating from a central simple carpophore: seeds pendulous. *Albumen* fleshy.—Shrubs, *often spiny:* hairs *short, incurved;* stipules *interpetiolar, single, undivided;* cymes, *corymbiform, terminal:* flowers *pedicellate.*

155. **M. rotundata,** *Gr.* (*n. sp.*). Nearly unarmed; branchlets puberulous; *leaves* petioled, ovate-rounded, bluntish or mucronate, *glabrous:* stipules subulate; *cymes trichotomous,* contracted; pedicels pubescent, clustered, shorter than the calyx-tube; *calyx-lobes* 5, *oval,* shorter than the tube; corolla villous at the throat; filaments as long as the corolla-lobes; *carpids* glabrescent, *oblong-linear,* tapering at the base, 3-gonal.—Nearly allied to (and perhaps not sufficiently distinguished from) *M. acuminata,* Bonpl., which is more downy, has more pointed leaves, and smaller, pubescent carpids. 10′–12′ high; leaves 3″–2″ long, 2¼″–1½″ broad; panicle subfastigiate, 3″–4″ broad; corolla 2‴ long, 5-cleft nearly to the middle; fruit 3‴ long, 1‴ broad.—Hab. Jamaica!, *Macf.*, *Pd.*, *Wils.*, in swampy marshes along the coast, S. Thomas i. E.

156. **M. cymosa,** *Gr.* Spinescent; cymiferous branchlets pilose, short, often forming a racemiform panicle; leaves petioled, ovate, blunt or bluntish, glabrescent: stipules minute, deltoid-subulate; *cymes simply corymbiform, hispid-pilose:* inferior pedicels as long as the campanulate calyx; *calyx-lobes* 4, *lanceolate, acuminate,* at length as long as the tube; corolla hairy at the throat; anthers subsessile; *carpids* pilose, 3-gonal, *tapering from the summit to the base.*—*Sl. t.* 174. *f.* 3, 4.—Lippia, *Sw.!*—Habit of *Spiræa chamædrifolia:* branches slender; leaves 6‴–12‴ long; cymes 8‴–12‴ diam.; corolla 2‴ long, 4-cleft to one-third; fruit 2‴ long, 1‴ broad at the summit.—Hab. Jamaica!, *Sw.*, *Macf.*, *Al.*, in the southern districts, Liguana hills, *Al.*, S. Jago savannah, Clarendon, (*Sl.*).

Subtribe 7. *SPERMACOCEÆ.—Ovules laterally attached. Pericarp dry. Seeds albuminous: embryo included, radicle inferior. Corolla-lobes valvate.*—Stem usually herbaceous; stipules connecting opposite leaves, divided into bristles, rarely obsolete.

53. DIODIA, *L.*

Calyx-limb 4–2(–10)-partite, persistent. *Corolla* infundibular: lobes 4, valvate. *Stigma* emarginate or 2-fid. *Fruit* 2-coccous: cocci indehiscent. *Seeds* furrowed at the commissure.—Stem *herbaceous or suffrutescent;* flowers *axillary, sessile.*

† *Leaves sessile, veinless.*

157. **D. prostrata,** *Sw.!* Annual, strigose; *leaves linear,* veinless, sessile, revolute at the margin: stipular bristles setaceous, longer than their sheath; flowers subsolitary in the axils; *calyx-lobes* 4, deltoid-lanceolate, bluntish, *much shorter than the carpids;* corolla-tube slender, obovate; *fruit subglobose, slightly keeled,* hard, hispid.—Spermacoce strigosa, *L. (non Auct.), ex syn. Lœfl.*—Slender, spithameous; corolla 2‴ long, white or pale-purple; carpids ecostate on the sides.—Hab. Jamaica!, *Sw.*, *M'Nab*, in sandy fields; [Mexico to Panama!].

158. **D. rigida,** *Cham. Schlecht.!* Perennial, suffrutescent; stems ascending, tetragonal, hairy or glabrescent; *leaves lanceolate,* acuminate with a terminal bristle, veinless, sessile, antrorsely scabrous on the revolute margin and midrib beneath: stipular bristles long-filiform, flexuose; axils few(–1)-flowered; *calyx-lobes* 4 (–2), lanceolate-linear, *half as long as the carpids;* corolla-tube clavate-campanulate: lobes deltoid; *fruit subglobose,* glabrescent: *carpids 3-costate.*—Spermacoce, *Kth.* D. setigera, *DC.!*—Variable in the down, diffuse; corolla 4‴ long, purplish or white.—Hab. Antigua!, *Wullschl.*, S. Vincent!, in savannahs; [Cuba!, Haiti!; Panama! to Uruguay!].

†† *Leaves rugose-veiny, shortly petioled.*

159. **D. sarmentosa,** *Sw.* Suffrutescent, flaccid-scandent; stem obtusely tetragonal; *leaves oblong-lanceolate,* pointed, shortly petioled, rugose-veiny with 4–5-jugal, curved veins, scabrous: stipular bristles setaceous-hairy; axils 5–few-flowered; *calyx-lobes* 4, lanceolate, *one-half or one-third as long as the carpids;* corolla-tube short, nearly as long as the calyx-limb; *fruit ovoid-oblong, ecostate,* glabrate, hard.—Spermacoce spinosa, *Lœfl.* (*non Jacq., non Sw.*). Jacquin's species, called in his coloured edition *S. havanensis,* is probably my *Machaonia microphylla,* Pl. Wright, while neither Lœfling's nor Swartz's plants are spiny. *Borreria Perrotetii,* DC., according to Miquel's (not Bentham's) determination, is also probably a synonym.—Often confounded with *Borrera Bartlingiana,* but easily distinguished by its impressed leaf-veins, and a true *Diodia.* Stem rough on the angles, usually hairy or glabrescent; leaves $1\frac{1}{2}''$–$1''$, stipular bristles about $2'''$ long; corolla white, $1\frac{1}{2}'''$ long; fruit perfectly smooth on the convex back of the carpids, $2'''$ long.—HAB. Jamaica!, *Bancr., Al., March,* among shrubs, in arid soil; Trinidad!, *Cr.;* [Guiana!, Brazil! to S. Kathérine!].

54. SPERMACOCE, *L.*

Character of *Diodia,* but one of the two carpids dehiscent along the margin of the commissure, the other closed by the dissepiment.

160. **S. tenuior,** *Lam.* (*non L.*). Annual; stem obtuse-angled, puberulous or glabrescent; *leaves* lanceolate (or lanceolate-linear), acuminate, *scabrous above* or near the margin: stipular bristles filiform, longer than their sheath; axils many(–few)-flowered; calyx-teeth minute, deltoid, much shorter than the carpid, three on the closed, the fourth on the open one, or obsolete; fruit obovate-oblong: *seeds minutely roughish.—Sl. t.* 94. *f.* 2; *Lam. Ill. t.* 94. *f.* 1.—S. stricta, *L.* (*non Roxb.*): from the cultivated plant. Borrera sexangularis, *Cham. Schlecht.! ex Sieb. Mart.* 47: a flaccid form, with broad, glabrescent leaves, and long petioles. S. longifolia, *Bartl.!:* the same form.—I adopt Lamarck's name, though Linnæus's original species (founded upon Dill. Elth. f. 359), from its habitat, would be *S. glabra,* Mich.: for he confounded it with Lœfling's homonym, which is probably *Borrera lævis,* the obscure synonymy of which may so far be cleared up, that the latter has transversely furrowed seeds.—Extremely variable; seeds slightly rugulose with points and several transverse wrinkles, but devoid of continuous furrows.—HAB. Jamaica!, *M'Nab, Al.,* a weed; Antigua!, *Wullschl.,* Trinidad!; [Cuba! and Mexico! to Brazil! and Peru!].

55. BORRERA, *Miq.*

Character of *Diodia,* but both carpids equally dehiscent along the inner surface.—Inflorescence *whorled and capitate, rarely cymose.*

Sect. 1. HEMIMITRA.—*Capsule septicide above the middle, with the dissepiment persistent below it.*

161. **B. lævis,** *Gr.* Annual, herbaceous or suffrutescent, glabrescent; stem subcylindrical or slightly angular; leaves elliptical-lanceolate or lanceolate, acuminate: veins 5–1-jugal: *stipular bristles* setaceous, glabrous, *shorter than, or as long as their produced sheath;* flower-whorls and heads many-flowered; *calyx-teeth* 4, minute, equal, *ovate, bluntish, much shorter than the obovate-globose fruit; seeds oblong, striated with tranverse furrows.—Lam. Ill. t.* 94. *f.* 2.—Spermacoce, *Lam.* (*exclus. syn. Sl.*). S. tenuior, *Sw.* B. vaginata, *Cham. Schlecht.*—Fruit $1'''$ long, glabrescent.—HAB. Jamaica!, *Wils., March,* a common weed in the Caribbean Islands; S. Kitts!, *Els.,* Antigua!, *Wullschl.,* Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Lockh.!* [Cuba!, Portorico!, Guadeloupe!].

Sect. 2. EUBORRERA.—*Capsule septicide to the base, with the dissepiment disappearing.*

162. **B. parviflora,** *Mey.* Annual, glabrescent; stem tetragonal; leaves oblong-lanceolate or elliptical, blunt or pointed, subsessile or shortly petioled: veins 5-jugal: stipular bristles setaceous, longer than their sheath; flower-whorls and heads many-flowered; *calyx-teeth* 4, *lanceolate-subulate, nearly as long as the obovate fruit; seeds minutely oblong, scrobiculate.—Mey. Esseq. t.* 1. *fig. sin.* 1–3: the fruit.—Spermacoce hirta, *Sw.* (Mitracarpum, *DC.*).—Very variable; leaves $1''$–$6'''$ (sometimes $2''$–$4'''$) long; heads $2'''$–$3'''$ diam.

—HAB. Jamaica!, *Wils.*, *March*, uncommon in the lower mountains; Antigua!, *Wullschl.*, Dominica!, *Imr.*, in savannahs, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Sch.*, *Cr.*, in fields; [French islands!; Guatemala! to Peru! and Brazil!].

163. **B. Bartlingiana,** *DC.!* Annual, stout, suffrutescent; stem tetragonal; leaves elliptical, elliptical-oblong, or ovate, acute or bluntish, pilose with scattered down, shortly petioled or subsessile: veins 7–5-jugal: stipular bristles setaceous, scabrous, longer than their sheath; flower-whorls many-flowered; *calyx-teeth* 4, *deltoid-lanceolate, equal, one-fourth to one-third as long as the obovate fruit; seeds oval, minutely dotted: furrow large.*—Bigelowia alata, *Bartl.!* Borr. Perrotetii, *Benth.!* (*non Miq.*). B. Fockeana, *Miq.!* B. tetraptera, *Miq.!*—Leaves 3″–8‴ long; heads 4‴–6‴ diam.—HAB. Trinidad!, *Lockh.*, *Cr.*; [Mexico!, Venezuela!, Guiana!].

164. **B. simplex,** *Gr.* Rooting at the base, flaccid, glabrescent; stem tetragonal; leaves lanceolate, pointed, subsessile, ciliate: veins 5-jugal: stipular bristles linear, ciliate, longer than their sheath; *axils* 1-*flowered; calyx-teeth* 2, "*linear,*" at length obsolete; fruit elliptical: *seeds oval, rugulose.*—Diodia, *Sw.!*—Habit of *Spermacoce tenuior.* Stem 6″–8″, leaves 1″, fruit 2‴ long.—HAB. Jamaica!, *Sw.*, in the highest mountains, among grasses.

165. **B. verticillata,** *Mey.* Perennial, suffrutescent, *glabrous;* stem tetragonal; leaves linear-lanceolate, shortly acuminate, sessile: veins distant, sub-2-jugal; stipular bristles setaceous, as long as or a little longer than their sheath; heads and accessory whorls globose: *involucre 2-leaved; calyx-teeth* 2 (–4), lanceolate, bluntish, *half as long as the ovate-oblong fruit; seeds oblong-linear, roughish.*—Spermacoce, *Sw.*—1′–4′ high; leaves 1½″–1″ long, 3‴–2‴ broad; heads 6‴ diam.: corolla small, white.—HAB. Jamaica!, all coll., in dry pastures; [Haiti!, Mexico! to Uruguay!].

166. **B. spinosa,** *Cham. Schlecht.* Annual, rigid; stem 4-keeled-subcylindrical: *keels* and leaf-ribs *scabrous or somewhat muricate;* leaves lanceolate-linear, bluntish at the acuminate top, sessile, scabrous on the margin: veins distant, 2–3-jugal: stipular bristles setaceous, nearly as long as their sheath; heads and whorls many-flowered: *involucre* 4–8-*leaved; calyx-teeth* 2 (–4), lanceolate, acuminate, *one-third as long as the oblong fruit; seeds oblong-linear, roughish.*—Spermacoce, *Sw.* B. densiflora, *DC.*—1′ high; leaves 2½″–1″ long, 4‴–2‴ broad; heads 6‴–4‴ diam.—HAB. Jamaica (*Sw.*), in fields of the northern districts; [Martinique!, *Sieb. Mart.* 272; Mexico!].

167. **B. podocephala,** *DC.* Suffrutescent, branched, glabrous or glabrescent; stem slender, tetragonal at the summit; *leaves linear,* tapering-sessile: *veins obsolete:* stipular bristles setaceous, nearly as long as their sheath; heads small, many-flowered: *whorls none* (or rare): involucre 2(–4)-leaved; *calyx-teeth* 2, deltoid or lanceolate, *one-fourth to one-third as long as the minute, obovate-oblong fruit; seeds oblong-linear, roughish.*—1′–3′ high; leaves 1″–4‴ long, 1½‴–½‴ broad; heads 2‴–3‴ diam.—HAB. Antigua!, *Wullschl.*, on the seashore, Dominica!, *Imr*, in savannahs; [Cuba!, Désirade!, Texas!, Mexico!].

168. **B. thymifolia,** *Gr.* (*n. sp.*). Suffrutescent, diffuse; branches low, tetragonal, scabrous on the edges; leaves thickish, recurved, linear, channelled-triquetrous, pungent, sessile, glabrous, minutely ciliate, fascicled in the axils: veins inconspicuous: *stipules subulate,* ciliate, with the point as long as the sheath; *flowers all terminal in few-flowered heads,* supported by the uppermost leaf-pair; *calyx-teeth* 2, oblong-lanceolate, pointed, thickish, half as long as the corolla, *longer than the obovate-oblong fruit,* 2 accessory setaceous, or none; *seeds oblong, smooth.*—Habit of *B. ericifolia,* but from its stipules approaching *Anthospermeæ.* Stem with short internodes, resembling a Mediterranean *Thymus;* leaves 2‴–1‴ long: stipules minute, pointed, or pungent, sometimes cut, but devoid of bristles, the hairs being as small as on the leaf-margin; calyx-lobes connected above the ovary into a ciliate sheath; corolla-tube filiform-clavate, 2‴ long, thrice as long as the lobes; anthers 4, oblong, incumbent: filaments short, inserted into the throat; style shortly 2-fid: stigmas clavate; capsule small, glabrous; seeds furrowed on the inner side.—HAB. Bahamas!, *Hjalmars.*, Turk Islands.

56. MITRACARPUM, *Zucc.*

Character of *Diodia,* but capsule circumscissile about the middle.

169. **M. villosum,** *Cham. Schlecht.* Annual; stem simple or few-branched, villous-

pubescent at the summit; leaves oblong or lanceolate; flower-whorls and heads many-flowered; 2 segments of the calyx-limb rigid, subulate-lanceolate, longer than the capsule, 2 shorter; *seeds oval, 4-lobed by the cross-shaped furrow.—Jacq. Ic. Rar. t.* 308.—Spermacoce hirta, *Jacq.* (*non Sw.*). S. villosa, *Sw.*—Habit of *Borrera parviflora.*—Hab. Jamaica!, *Al., Wils., Wullschl.;* Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba! and Mexico! to Ecuador! and Venezuela!].

57. RICHARDSONIA, *Kth.*

Calyx-limb 6–4(–7–3)-partite, deciduous. *Corolla* infundibular: lobes 6–4(–3)-valvate. *Stigma* 3–4-fid. *Fruit* 3–4-coccous: cocci indehiscent, furrowed on the inner side, at length concrete with the seed.—Diffuse, pubescent herbs; flowers *in terminal heads:* involucre 4-leaved.

170. **R. scabra,** *L.* (*sub Richardia*). Stem pilose; leaves lanceolate-oblong or elliptical: stipular bristles as long as or shorter than their sheath; heads many-flowered: *calyx-lobes* 6, *foliaceous, ovate-deltoid,* as long as the truncate-obovate, muricate 3 (–4) carpids.—*S. Hil. Pl. Us. t.* 8.—Our form flowers from the first year; corolla white, 6-lobed; stamens exserted.—Hab. Jamaica!, *Macf., March;* [Mexico! to Brazil!].

58. PERAMA, *Aubl.*

Calyx-limb 2-partite, persistent on the valves. *Corolla* infundibular: lobes 4–5, valvate. *Style* filiform, subentire. *Capsule* 3-celled, obliquely 2-valved, septicide on one, loculicide on the other side, with the dissepiment persistent: seeds triquetrous.—Annual, slender herbs; leaves *opposite or ternate, sessile, palmatinerved:* stipules *obsolete;* flowers *in terminal peduncled heads.*

171. **P. hirsuta,** *Aubl.* Hispid with scattered hairs; stem divided above into peduncles, or simple; leaves opposite, ovate-lanceolate, acuminate, uppermost lanceolate; flower-heads ovoid; calyx-teeth rigid, subulate-linear, as long as the corolla-tube, much longer than the valves; corolla-lobes 4, pointed.—*Aubl. t.* 18.—Spithameous, leafy below the middle; leaves 3‴ long; corolla yellow.—Hab. Trinidad!, *Lockh., Pd., Cr.,* in savannahs; [Venezuela!, Guiana!, Brazil!].

59. EMMEORRHIZA, *Pohl.*

Calyx-limb 4-partite, persistent. *Corolla* rotate: segments 4, valvate. *Stigma* 2-fid. *Fruit* dicoccous: cocci dehiscent along the inner surface: seeds subcompressed, wholly adnate to the loose part of the membranaceous dissepiment, which projects on both ends like a tail. —A scandent, suffrutescent, glabrous herb; flowers *in terminal, panicled umbels.*

172. **E. brasiliensis,** *Pohl.* Habit of *Galium;* leaves oblong-lanceolate, acuminate, petioled, 2″–1½″ long: stipular bristles shorter than their produced sheath; calyx-lobes lanceolate; capsule clavate, 1‴ long.—Hab. Trinidad!, *Lockh., Cr.,* in the northern hills, Fort Scorge, S. Anns; [Venezuela!, New Granada!, Peru!, Brazil! to S. Katherine!].

Subtribe 8. *STELLATÆ.—Character of* Spermacoceæ, *but leaves whorled, exstipulate. Pericarp dry or baccate.*

60. GALIUM, *L.*

Calyx-limb obsolete. *Corolla* rotate: segments 4(–3), valvate. *Anthers* ovoid-globose. *Stigmas* globose. *Fruit* didymous. *Albumen* cartilaginous.

Sect. Relbunium, *Endl. Fruit baccate.*—Perennial herbs; inflorescence axillary: pedicels bearing a 4-leaved involuce at the summit.

173. **G. hypocarpium,** *Endl.* Diffuse, pilose or glabrescent; leaves 4 in the whorl, oval-oblong, or lanceolate-oblong, 1-nerved; pedicels single, exceeded by the leaves: flowers yellow, supported by the elliptical involucel-leaves.—Valantia, *L.* Rubia, *DC.* R. guadelupensis, *Spr.:* a glabrescent form, with larger, scabrous-ciliate leaves.—1′–6′ high; leaves 3‴–4‴ long; berry hairy (or glabrescent), 1½‴ broad.—Hab. Jamaica!, all coll., a common weed in the mountains, *e.g.* S. Anns, at 4000′ alt.; Dominica!, *Imr.;* [Haiti!, Guadeloupe!; Costarica, Venezuela!].

XCV. SYNANTHEREÆ.

Flowers in involucrate heads. *Calyx-limb* abortive. *Corolla* sympetalous, valvate: nerves sutural, marginal along the lobes. *Stamens* inserted into the corolla: anthers connected. *Ovary* simple, inferior: ovule 1, erect; style 2-fid, with collecting hairs. *Achenium* with an exalbuminous embryo.—Leaves *mostly exstipulate.*

This Order affords alterative, bitter, or aromatic drugs. *Guaco* (*Mikania*) is a reputed antidote against serpents' bite: of this genus *M. gonoclada* is used in Jamaica (Pd.), *M. suaveolens* in Trinidad (Sch.). Alterative, and often aromatic principles exist in *Pterocaulon virgatum, Parthenium Hysterophorus, Ambrosia artemisifolia,* and *Pyrethrum Parthenium;* a bitter one in *Neurolæna lobata;* and of the resolvent property, *Taraxacum* is a common example. *Eupatorium* is usually aromatic: *E. villosum,* as well as the *Guaco,* were medicines for cholera, and *E. Ayapana* is cultivated as a powerful diaphoretic. *Clibadium Badieri* is poisonous to cattle, and its branches are used for poisoning fish. Cultivated potherbs in the West Indies are *Spilanthes oleracea* and *Lactuca sativa.*

TRIBE I. *CORYMBIFERÆ.—Corolla tubular, or ligulate only in the ray-flowers.*

Series 1. **Vernoniaceæ.**—*Style-branches terete, slender, hispidulous all over. Heads discoid, homogamous, cyanic.*—Leaves mostly alternate.

1. SPARGANOPHORUS, *Vaill.*

Head discoid. *Involucre* imbricate. *Receptacle* naked. *Corollæ* 3(–4)-fid. *Achenium* turbinate, 3–5-gonal, crowned with a cartilaginous, spongy, subcrenate cupule.—An annual herb; heads *sessile in the axils.*

1. **S. Vaillantii,** *G. Br. Jam. t.* 34. *f.* 2: *analyt.*—Ethulia sparganophora, *L.* E. Struthium, *Sw.*—1′–2′ high, often branched, glabrescent; leaves variable, elliptical or lanceolate, serrate or remotely denticulate; heads 2‴–3‴ diam., whitish, usually several in each axil.—HAB. Jamaica!, *Pd., Dist., Al., March,* in moist situations; Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! and Panama! to Brazil!; trop. Africa!].

2. OLIGANTHES, *Cass.*

Head discoid, 1–4-flowered. *Involucre* cylindrical, imbricate: superior scales longer. *Receptacle* naked. *Corollæ* 5-fid. *Achenium* clavate, 10-costate: pappus scaly or abortive. —Trees or shrubs: branchlets *tomentose;* heads *in terminal, compound-contracted corymbs.*

2. **O. condensata,** *Schultz Bip. Leaves* ovate, acuminate, *glabrous,* reticulated and *pubescent on the primary veins beneath;* pedicels shorter than the *1-flowered heads;* pappus 1-serial, of minute, distinct scales, or abortive, much shorter than the glabrous achenium. —*Less. in Linnæa,* 4. *f.* 39–41: *analyt.*—Adenocyclus, *Less.:* Sieber's specimen (*Trin.* 73), with a rudimentary, deciduous pappus, while Crueger's form would belong to *Odontoloma,* which is consequently identical.—A tree, 20′–40′ high; flowers rosy.—HAB. Trinidad!, *Sieb., Cr.,* in the hills of Fort Scorge: a large-leaved form, with the pappus as large as the exterior scales in *Vernonia; Chacochacocco,* a smaller-leaved form, with a minute pappus.

3. VERNONIA, *Schreb.*

Head discoid, many(–1)-flowered. *Involucre* imbricate: superior scales longer. *Receptacle* naked. *Corollæ* 5-fid. *Achenium* cylindrical or clavate: pappus mostly double: inner series pilose, exterior usually minute, scaly.—Leaves *often glandular;* heads *usually in terminal, corymbiform cymes;* flowers *purple or blue.*

* *Heads single, sessile at the top of leafy branches.* (Leptospermoides, *DC.*)

3. **V. bahamensis,** *Gr.* (*n. sp.*). Shrubby, hoary-velvety with very short appressed down; leaves obovate-roundish, acute at the base, mucronate, peticled; *heads single, sessile* immediately above the uppermost leaves; involucral scales ovate, acuminate, velvety; achenium hairy: pappus white.—Resembling *V. Thomæ,* Benth., of S. Thomas; but distin-

guished by single heads, the involucre, and mucronate leaves, and from *V. argyrophylla*, Less., by the leaves velvety on both sides. A single branch, divided at the origin of the lowest head; leaves 12‴–8‴ long, 8‴–6‴ broad: petiole 4‴–3‴ long; involucre 2‴ long, campanulate: superior scales longer, acuminate; flowers many, purple, 3‴ long; pappus exserted, the exterior series broader, minute.—HAB. Bahamas!, *Swains.*

** *Cymes dichotomous, leafless.* (Tephrodes, *DC.*)

4. **V. cinerea**, *Less.* *Annual*, herbaceous; leaves ovate, ovate-roundish, or lanceolate, repand or dentate, petioled, pubescent chiefly beneath; cymes dichotomous: heads pedicellate; *involucral scales* lanceolate-linear, *acuminate*, pubescent; achenium hairy: pappus soft, white.—Heads 20–25-flowered, 2‴–3‴ long, purplish.—HAB. Jamaica!, all coll., a weed; [East Indies!, trop. Africa!].

*** *Cymes scorpioid, leafless.*

5. **V. scorpioides**, *Pers.* Shrubby; leaves elliptical, pointed, pubescent beneath, petioled; *cymes scorpioid*, recurved, *aphyllous*, approximate: *heads* many-flowered, sessile, *contiguous;* involucral scales hairy, pointed, interior acuminate, exterior ovate; achenium hairy: pappus white.—*Lk. & Otto, Abbild.* 1. *t.* 55.—V. centriflora, *Lk.*—Heads 4‴–3‴ long. —HAB. Trinidad!, *Cr.;* [Venezuela, Guiana!, Brazil].

**** *Cymes scorpioid, leafy.*

6. **V. arborescens,** *Sw.!* Shrubby; *leaves rugose*, ovate or ovate-oblong (rarely lanceolate), acuminate, rounded at the base, petioled, villous beneath or glabrescent; *cymes scorpioid, leafy: heads sessile; interior involucral scales* oblong-lanceolate, *pointed or bluntish*, exterior ovate or ovate-lanceolate; achenium sericeous: *pappus white.—Plum. Ed. Burm. t.* 130. *f.* 2.—Conyza, L.—Variable in the down, the size of the floral leaves, the length and direction of the cymes, and the more or less distant flower-heads: confounded by Swartz with the following, from which it is distinguished by its wrinkled leaves, and the white or slightly tinged pappus. Stem 4′–8′ high; heads 3‴ long, 20-flowered, pink or blue.

α. Swartziana. Leaves hoary-tomentose or villous beneath; branches of the panicle somewhat rigid, reflexed or spreading: heads exceeding or equalling the small oblong floral leaves, superior often aphyllous.—*Ns. Amœn. Bonn.* 2. *t.* 5: a form with short cymes.—V. tomentosa, *Ns.* V. divaricata, *Less.* V. icosantha, *DC.* V. Berteriana, *DC.* (*Hb. Benth.*): a narrow-leaved form.

β. Lessingiana. Leaves hoary-villous beneath; branches of the panicle virgate, flexuose-recurved: heads exceeded by the ovate-lanceolate floral leaves, or the superior equalling them.—V. arborescens, *Less.:* corresponding with Plumier's figure, but not with the specimen of Swartz's herbarium, which belongs to *α.*

γ. divaricata, Sw. (*ex parte*). Leaves concolor, puberulous or glabrescent beneath; branches of the panicle virgate, flexuose-recurved: heads exceeded by or equalling the lanceolate floral leaves, superior often aphyllous.

HAB. Jamaica!, all coll., common in pastures, along wood-sides (all forms); S. Lucia!, *Anders.*, S. Vincent!, *Guild.* (γ); Trinidad!; [Cuba!, Portorico (β), French islands!, *Sieb. Mart.* 190; Nicaragua, *sec. Oerst.*].

7. **V. acuminata,** *Less.* Shrubby; *leaves devoid of wrinkles*, ovate-lanceolate, acuminate, bluntish at the base, concolor, roughish, petioled; paniculate *cymes scorpioid, leafy:* heads subsessile, distant, exceeded by the floral leaves; *interior involucral scales* oblong-lanceolate, *bluntish*, exterior ovate; achenium sericeous: *pappus straw-coloured.*—V. divaricata, *Sw.: ex parte.*—Cymes divaricate-flexuose or virgate: heads 3‴ long, 15–20-flowered. —HAB. Jamaica!, *Al., Dist., Wullschl.;* S. Anns, Manchester.

8. **V. punctata,** *Sw.* Shrubby; *leaves* chartaceous, elliptical-oblong or lanceolate, *tapering into the petiole*, acuminate (or "blunt"), concolor, puberulous with scattered down; *cymes shortly scorpioid*, fastigiate, *leafy:* superior heads subsessile, inferior usually pedicellate; *interior involucral scales* oblong-lanceolate, *sharply acuminate*, exterior ovate; achenium sericeous: *pappus straw-coloured.*—V. Vahliana, *Less.!* V. longifolia, *Pers.*, *ex syn. ap. DC.*—Cyme-branches 4–2-headed: heads 3‴ long, blue.—HAB. Antigua!, *Wullschl.;* Dominica!, *Imr.;* [S. Croix, Guadeloupe!; Mexico, Honduras!].

9. **V. rigida,** *Sw.!* Shrubby; *leaves* rigid, *shining above,* oval or lanceolate-oblong, bluntish, concolor, hispidulous-scabrous or glabrescent; *cymes scorpioid, leafy,* flexuose: heads much distant, subsessile or shortly pedicellate, single or geminate, usually much exceeded by the floral leaves; *interior involucral scales* oblong-lanceolate, *blunt* or bluntish, exterior ovate; achenium hairy or glabrate: *pappus straw-coloured.*—V. fruticosa, *Sw.: ex ic. Plum. Ed. Burm. t.* 95. *f.* 1. V. Sagræana, *DC.*: the longer-leaved form. V. emarginata, *Wickstr. sec. Less.* Heads 4‴ long: scales of the involucre at length spreading.—Hab. Jamaica!, *Sw., Wils.*, in the northern limestone hills; [Cuba!].

10. **V. tricholepis,** *DC.* (*ex descr.*). Suffrutescent; leaves elliptical-oblong or lanceolate, pointed, scabrous above, villous beneath, subsessile; cymes virgate, flexuose, leafy, or passing into branches with axillary heads: heads much exceeded by the leaves, sessile; *interior involucral scales lanceolate, acuminate,* equalling the pappus, *exterior setaceous;* achenium shortly linear-turbinate, hairy: *pappus white.*—Our plant approaches *V. gracilis*, Kth., which has more distant heads, longer leaves, an exserted pappus, and a somewhat different involucre. Heads 2‴ long.—Hab. Jamaica!, *Pd.;* Trinidad!, *Cr.;* [Guiana, Bahia].

4. CENTRATHERUM, *Cass.*

Head discoid. *Involucre* imbricate, exceeded by approximate floral leaves. *Receptacle* naked. *Corollæ* 5-fid. *Achenium* obovate-oblong, costate: pappus caducous, of 1-serial, unequal, rigid bristles.—Suffrutescent herbs; leaves *serrate, glandular;* heads *single, long-peduncled:* flowers *purplish-blue.*

11. **C. muticum,** *Less.* Perennial; leaves spathulate-oblong, unequally serrate, hairy with scattered flexuose down; *interior involucral scales oblong, mucronulate-blunt,* ciliate, exterior descrescent, ovate.—*Kth. N. Gen.* 4. *t.* 315.—Ampherephis, *Kth.*—Stem 2′–3′ high: peduncles terminal, 4″–6″ long; heads 8‴ diam.—Hab. Trinidad!, *Cr.*, S. Anns, among grasses; [Venezuela, Guiana].

5. MONANTHEMUM, *Gr.* (*n. gen.*).

Head 1-flowered. *Involucre* ovate-oblong, imbricate: superior scales longer. *Corolla* 5-fid. *Anthers* 2-tailed at their base. *Style* of *Vernonia. Achenium* clavate, glabrous: pappus 1-serial, pilose, of many setaceous, slightly scabrous bristles.—A shrub *or* tree; leaves *alternate, entire, glabrous above, hoary-silvery beneath with appressed down;* heads *ebracteate, in many-lobed, contracted, axillary and terminal panicles:* flowers *purple.*

12. **M. Cruegerii,** *Gr.* Branches cylindrical, hoary-puberulous; leaves petioled, oblong, bluntish, 5″–3″ long, 2″–8‴ broad, eglandular, rigid, reticulated with prominulous veins on both sides, lepidote-tomentose beneath and on the petioles; panicles peduncled, 6″–2″ long, racemiform: heads subsessile or shortly pedicellate, 2‴–3‴ long: pedicels tomentose; involucre terete, tapering above: scales villous on the back below the point, inferior ovate, blunt, 1‴ long, rather abruptly passing into the ovate-oblong, bluntly acuminate superior ones; receptacle minute, naked; pappus white or slightly tinged, equalling the slender, glabrescent corolla, 2‴–3‴ long; anther-tails sharply acuminate, somewhat shorter than the glabrous filaments; style slender, hispidulous above, equal: hispidulous branches linear-acuminate, subterete; achenium slightly costate, tapering towards the base, somewhat shorter than the pappus. Hab. Trinidad!, *Cr.;* at Carais, Chacochacacco.

6. ELEPHANTOPUS, *L.*

Heads few-flowered, discoid, aggregated into glomerules. *Special involucre* distichous, compressed: scales alternately conduplicate. *Receptacle* naked. *Corollæ* unequally 5-fid. *Achenium* clavate, costate: pappus 1–2-serial, of scaly bristles, dilated at the base.—Perennial herbs; glomerules *many-headed, supported by a general involucre, in panicles or spikes:* flowers *violet-purple* (*or white*).

Sect. 1. Euelephantopus, *Endl.—Pappus* 1*-serial, of* 5 (–8) *bristles.*—Glomerules peduncled, distant, in loose corymbs.

13. **E. scaber,** *L., T. Gr.* Stem nearly naked below the inflorescence; rosulate *leaves*

spathulate, crenulate, *hairy beneath with long, scattered, strigose down*, superior lanceolate, floral cordate-deltoid, slightly strigose; *pappus-bristles* setaceous, somewhat longer than the achenium, *with a minute, dilated base.*—1′–3′ high; glomerules 6‴ diam.—HAB. Antigua!, *Nichols.*, a weed; [Louisiana; Cuba! to Brazil!; East Indies!].

14. **E. mollis,** *Kth.* Stem leafy above the base; inferior *leaves* obovate-oblong or elliptical, serrate-crenate, *villous beneath with short soft down*, superior oblong-lanceolate, floral cordate-deltoid, pilose; *pappus-bristles* setaceous, somewhat longer than the achenium, *with a minute dilated base.*—*Sl. t.* 156. *f.* 1. 2.—E. Martii, *Grah.*—5′–1′ high; down of the leaves half as long as in the preceding, and inflorescence usually more compound; glomerules 10‴–6‴ diam., equalling the floral leaves; pappus of *E. scaber*, while in *E. carolinianus*, W. (Engelm.), the bristles are less abruptly dilated.—HAB. Jamaica!, *Al.*, *Wils.*, *March*, a common weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, common; [Cuba! and Mexico! to Peru! and Brazil!].

Sect. 2. ELEPHANTOSIS, *Less.*—*Pappus 1–2-serial, of many bristles.*—Glomerules sessile in interrupted spikes.

15. **E. angustifolius,** *Sw.* Stem few-leaved, erect; rosulate leaves lanceolate-oblong, softly pubescent or glabrescent; spike simple, or divided into erect branches below: *glomerules much exceeding the ovate-lanceolate floral leaves;* heads 4(–3)-flowered; *pappus-bristles* subequal, 1-serial, *much longer than the achenium*, setaceous, *gradually passing into the broader base.*—*Sl. t.* 148. *f.* 4.—Elephantosis, *DC.*—Stem simple, villous, 2′–3′ high; glomerules 4‴ long.—HAB. Jamaica!, *Macf.*, *M'Nab*, *Wullschl.*, rare, in the mountains; Trinidad!, *Lockh.*, *Cr.*, in savannahs; [Mexico! to Brazil!].

7. DISTREPTUS, *Cass.*

Heads few-flowered, discoid, 1–3 in a glomerule: structure of *Elephanthopus*, but pappus 1-serial, unequal, with several of the stouter bristles bent upwards and downwards below the summit.—A branched, rigid, perennial herb; glomerules 2–3-*bracteate, in interrupted, spreading, compound spikes:* flowers *white.*

16. **D. spicatus,** *Cass.*—*Sl. t.* 150. *f.* 3, 4.—Elephantopus, *Juss.* D. nudicaulis, *Less.* D. crispus, *Cass.?* (Spirochæta, *Turcz.*): said to be distinguished by spirally twisted pappus-bristles.—1′–3′ high, glabrescent or scabrous; inferior leaves spathulate or spathulate-oblong, variable in breadth, subentire or crenate, superior lanceolate; heads oblong-linear, 4‴–6‴ long, 4–3-flowered.—HAB. Jamaica!, all coll., a common, troublesome weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 77; [Cuba!, and Mexico! to Venezuela! and Peru!].

8. ROLANDRA, *Rottb.*

Heads 1-flowered, aggregated into globose glomerules. *Involucre* 2-leaved, compressed. *Corolla* 5(–3)-fid. *Achenium* oblong-turbinate, 4-costate: pappus minute, coroniform, dentate.—A virgate shrub; leaves *alternate, white-tomentose beneath;* glomerules *solitary along the axils, sessile between the leaves of rudimentary branches:* flowers *white.*

17. **R. argentea,** *Rottb.*—*Sl. t.* 7 *f.* 3; *Sw. Fl. t.* 17: *analyt.*—Echinops fruticosus, *L.*—Leaves elliptical-oblong or lanceolate-oblong, pointed, penninerved; glomerules 6‴ diam.—HAB. Jamaica (*Sl.*); Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, in dry pastures, and along roadsides; [French islands!, *Sieb. Mart.* 205; Panama! to Brazil!].

Series 2. **Eupatoriaceæ.**—*Style-branches bluntly clavate, rarely cylindrical-filiform, puberulous above the stigmatic lines, or glabrous. Heads discoid, homogamous, cyanic.*—Leaves usually opposite.

In this series the cohesion of the anthers is generally slight, and in some cases (as in *Adenostemma, Brickelia diffusa, Hebeclinium*, etc.) the anthers in dry specimens appeared quite distinct, as was stated before of *Kuhnia:* but this is of no generic importance.

9. AGERATUM, *L.*

Head discoid. *Involucre* imbricate. *Receptacle* conical, naked. *Corollæ* clavate. *Achenium* 5-gonal: pappus of 5–10 distinct scales.—Annual herbs; heads *in terminal corymbs, blue or white.*

18. **A. conyzoides,** *L.* Erect; leaves ovate, obtusely serrate, petioled: pairs distant; involucral scales striate; *pappus-scales* 5, *subulate-setaceous,* subserrate at the dilated base, *nearly as long as the achenium.*—*Sl. t.* 152. *f.* 2.—A variable weed; leaves 2″–1″ long.—HAB. Jamaica!, *March;* S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Georgia and Cuba! to Brazil!; Pacific Islands!; East Indies!; trop. Africa! to Natal!].

19. **A. muticum,** *Gr.* Erect; leaves ovate, serrate, petioled: pairs distant; involucral scales striate; *pappus-scales* 5, *lanceolate, bluntish,* ciliate, *one-third as long as the achenium* (rarely one of them longer and acuminate).—A. maritimum, *β*, *Schultz Bip. in Pl. Lechl.* (*non Kth.*).—Exactly like the preceding, but apparently constant in its awnless pappus, the scales of which are distinct to the base.—HAB. Jamaica!, *Wullschl., March;* [Cuba!, Peru!].

10. ADENOSTEMMA, *Forst.*

Head discoid. *Involucre* nearly 1-serial. *Receptacle* convex, naked. *Corollæ* dilated above. *Achenium* clavate: pappus of 2–5 rigid bristles, which are crowned with a gland.—Herbs; heads *in terminal corymbs, white.*

20. **A. Swartzii,** *Cass.* Annual; stem *ascending from a radicant base;* leaves deltoid or rhomboid-oval, serrate above the base, glabrescent; *corymb few-headed;* involucral scales spathulate, glabrescent, ciliate above; corolla abruptly dilated, villous above; achenium obliquely clavate, hanging from a short, narrow base, slightly muricate; pappus-bristles 3 (–4): gland clavate.—*Sl. t.* 155. *f.* 2.—Cotula Verbesina, *L.* Lavenia decumbens, *Sw.*—8″–1′ high; leaves 8‴–2″, achenium 2‴ long.—HAB. Jamaica!, *Macf.*, *Wils.*, rare in moist woods, at 3000′ alt.; S. Vincent!, *Guild.;* [Cuba!, Ecuador!].

11. BRICKELIA, *Ell.*

Head discoid. *Involucre* imbricate: scales striate. *Receptacle* flat, naked. *Corollæ* filiform: teeth minute. *Style* with a hispid tumour at the base: branches glabrous, clavate, or slender. *Achenium* cylindrical, 10-striate; pappus pilose.—Slender, suffrutescent herbs; heads *in leafy panicles.*

The West Indian species of this genus has a less imbricate involucre, a soft, not scabrous pappus, and filiform, slightly bluntish style-branches.

21. **B. diffusa,** *As. Gr.* Glabrous; stem herbaceous, cylindrical, many-branched; leaves opposite, membranaceous, petioled, cordate-deltoid, slightly cuneate at the base, serrate above it, those of the large loose panicle lanceolate or linear; pedicels capillary, in corymbs; *involucral scales sub-2-serial, exterior small, imbricate,* interior much longer, oblong-linear, bluntish; heads 12–6-flowered; achenium puberulous or glabrate: *pappus capillary,* soft.—Eupatorium, *V.* Bulbostylis, *DC.*—Erect, 2′–4′ high; panicle 1′–2′ long: heads numberless, 3‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, *March,* in woods, S. Andrews, Westmoreland; Trinidad!, *Lockh.;* [Mexico, Veraguas!, Venezuela!, Brazil!].

12. HEBECLINIUM, *DC.*

Head discoid. *Involucre* imbricate: scales striate. *Receptacle* convex, shortly pilose. *Corollæ* filiform: teeth minute, ciliate. *Style* equal at the base. *Achenium* 2–3-angular, subcompressed: pappus pilose.—Pubescent herbs; heads *numerous, in contracted, terminal, and axillary corymbs.*

22. **H. macrophyllum,** *DC.* Suffrutescent, softly puberulous; leaves subcordate-roundish or deltoid, pointed, slightly cuneate at the base, crenate, petioled; corymbs roundish or lobed: heads many-flowered; involucral scales puberulous, blunt, exterior ovate, interior longer, lanceolate; achenium glabrous.—Eupatorium, *L.* E. populifolium, *Mart.* Ageratum

cœruleum, *Sieb. Mart.* 192!—2′–6′ high, flowering in the first year; heads ovoid, early expanded: flowers whitish (or blue).—HAB. Jamaica!, *Dist.*, *March*, a weed in the mountains; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! and Mexico! to Peru! and Brazil!].

13. EUPATORIUM, *L.*

(Campuloclinium and Ooclinium, *DC.*)

Head discoid. *Involucre* imbricate or 2–1-serial. *Receptacle* naked, glabrous, usually flat. *Corollæ* clavate or campanulate above. *Achenium* 5(–3)-gonal: pappus pilose.—Shrubs or herbs; heads *mostly in terminal corymbs.*

The West Indian species do not admit of separating *Campuloclinium*: for those species which present a convex or hemispherical receptacle above the involucre are too nearly related to others. *Ooclinium*, considered by Schultz Bip. Regensb. Fl. 1850, p. 419 as the type of a particular division of *Eupatoriaceæ*, on account of its compressed achenia, has no better claims to be distinguished: for—

1. I have a new Dominica *Eupatorium*, which, with the head of *Cylindrocephala*, and a flat receptacle, presents 3-gonal-subcompressed achenia, exactly as *Ooclinium villosum*, DC., of Pl. Sprucean. and Hostm.: the latter is perhaps identical with *E. urticifolium*, L. fil., figured by Smith.

2. *Ooclinium rigidum*, DC., has the 5-gonal achenium of *Eupatorium*, and would consequently belong to *Campuloclinium*, while *C. surinamense*, Miq. (Sch. Bip.! in Pl. Fockean.), is *Eup. Vitalbæ*, DC.

§ 1. CYLINDROCEPHALA, *DC.*—*Receptacle produced into a short cylinder between the involucral scales, convex or flat above them. Involucre cylindrical, many-serial: scales appressed, glabrescent.*

* *Wholly glabrous species.*

23. **E. rigidum,** *Sw.!* Suffrutescent, *glabrous;* stem cylindrical; *leaves* opposite, shortly petioled, rigid, ovate or ovate-lanceolate, acuminate, 3-nerved with impressed veins above, densely dotted with glands beneath, *remotely serrate: serratures 2–3 on each margin;* corymbs few-headed: heads many-flowered, pedicellate; *receptacle convex;* involucral scales oblong, blunt, striate; achenium slightly muricate.—Ooclinium, *DC.*—1′–2′ high; leaves 18‴–8‴, involucre 5‴–6‴ long; flowers violet; achenium 5-gonal, with equal sides.—HAB. Jamaica!, *Sw.*, in limestone hills of the northern districts.

24. **E. Ossæanum,** *DC.* Shrubby, *glabrous;* branches cylindrical; *leaves* opposite, long-petioled, rigid, ovate-lanceolate, acuminate with a bluntish point, *3-nerved* with impressed veins above, densely dotted with glands beneath, *coarsely cartilaginous-serrate* above the subcuneate base; corymbs trichotomous: *heads* many-flowered, *ultimate ternately sessile; receptacle flat;* involucral scales ovate-oblong, bluntish or blunt, subestriate; achenium glabrous.—Allied to the preceding, and perhaps still more to *E. macranthum*, Sw., of Martinique, said to be distinguished by 6‴-long involucres. Leaves 3″–2″, involucre 3‴ long.—HAB. S. Vincent!, *Guild.*; [Cuba].

25. **E. punctatum,** *Lam.* Shrubby, *glabrous;* branches slightly obtuse-angled, or striate; *leaves* opposite, petioled, ovate or ovate-lanceolate, acuminate, *triplinerved*, densely dotted with glands beneath, serrate; corymbs compound: *heads* 10–20-flowered, pedicellate; *receptacle flat;* involucral scales ovate-oblong, blunt, striate; achenium glabrous.—Leaves 3″–2″, involucre 4‴ long.—HAB. Trinidad!, *Sieb. Tr.* 75; [Guadeloupe!].

26. **E. lævigatum,** *Lam.* Shrubby, *glabrous;* branches striate-angular; *leaves* opposite, petioled, ovate (or ovate-lanceolate), pointed, 3-*nerved*, dotted beneath with minute, somewhat distant glands, *serrate;* corymbs compound: heads 10–20-flowered, pedicellate, (or ultimate sometimes subsessile); *receptacle convex;* involucral scales ovate, and ovate-oblong, blunt, striate, innermos bluntish; achenium slightly scabrous on the angles.—*Miq. Surin. t.* 54.—E. psiadiæfolium, *DC. in H. Hook.*, *β*, *Miq.!*—Leaves 4″–2″, involucre 4‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*, common in savannahs; [Panama, Guiana!, Brazil!].

27. **E. impetiolare,** *Gr.* (*n. sp.*). Shrubby, *glabrous;* branches cylindrical; *leaves* opposite, *sessile,* elliptical-oblong or lanceolate-oblong, bluntly acuminate, bluntish at the

base, *triplinerved,* with the lateral nerves very distant from the base, dotted beneath with minute, scattered glands, callous on the margin, *remotely serrate:* serratures glandular, blunt; corymbs contracted, compound: heads 10–20-flowered, pedicellate; *receptacle flat;* involucral scales ovate and oblong, blunt, slightly 3-striate; achenium somewhat scabrous on the angles.—Allied to the preceding, but peculiar by its broadly sessile leaves. Leaves 3″–1½″ long, 12‴–6‴ broad; involucre 4‴ long, shining-tawny.—HAB. Dominica!, *Imr.*, in the mountains.

28. **E. macrodon,** *DC.* Shrubby, *glabrous;* branches subcylindrical-striate; *leaves* opposite, petioled, ovate-lanceolate, acuminate, contracted at the base, *triplinerved, dotless beneath,* callous on the margin, serrate: serratures glandular, blunt, approximate; corymbs expanded, compound: heads 10–20-flowered, pedicellate; *receptacle flat;* involucral scales ovate-roundish and ovate-oblong, blunt, 3–5-striate; achenium slightly scabrous on the angles.—Leaves 3″–1½″ long, 15‴–8‴ broad; involucre purplish, 4‴ long.—HAB. Dominica!, *Imr.*, in the mountains.

** *Branches and leaves pubescent, or the latter glabrate.*

29. **E. conyzoides,** *V.* Shrubby, slightly villous-pubescent above; branches cylindrical; *leaves* opposite, petioled, ovate or ovate-lanceolate, acuminate, often cuneate at the base, *triplinerved,* dotted with minute scattered glands, and *glabrescent beneath,* serrate above the base, or subentire; *corymbs trichotomous:* heads 10–20-flowered, pedicellate, numerous; *receptacle flat; involucral scales rounded at the top,* striate, tinged above, interior longer, oblong; achenium scabrous on the angles.—*Schrank, H. Monac. t.* 85.—A straggling shrub, 6′–10′ high, variable in the down, the form and serratures of the leaves, the distance of their lateral nerves from the base, the size of the heads, and somewhat in the point of the interior involucral scales; larger leaves 3″ long, 1¼″ broad; flowers pale-blue or white.

α. Involucre 4‴ long: inner scales blunt.—*E. conyzoides,* var. *glabrescens,* Steetz!, is a similar form, but with shorter, 3‴-long involucres; Brazilian forms have still larger, 5‴-long involucres.

β. heterolepis. Involucre 4‴ long: interior scales bluntish, or with a roundish-cuspidate point; leaves usually glabrescent.

HAB. Bahamas!, *Swains.;* Jamaica!, all coll. (*α, β*); Antigua!, *Nichols., Wullschl.;* [Cuba! and Mexico! to Brazil!].

30. **E. odoratum,** *L.* Shrubby, villous; branches cylindrical; *leaves* opposite, petioled, ovate or ovate-lanceolate, acuminate, often cuneate at the base, *triplinerved, villous-pubescent,* and dotted with minute scattered glands *beneath,* coarsely serrate, with a few serratures above the base, or subentire; *corymbs trichotomous,* dense: heads 15–25-flowered, pedicellate; *receptacle flat; involucral scales* striate, *interior* oblong-lanceolate, *acuminate,* exterior ovate-oblong, blunt; achenium scabrous on the angles.—E. brachiatum, *Wickstr.*—6′ high; branches rigid, spreading; larger leaves 3″ long, 1¼″ broad; involucre 4‴ long: flowers pale-blue, or white, scented.—HAB. Jamaica!, all coll., along roads; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Lockh., Sch.;* [Haiti! to French islands!, Nicaragua to Guiana!].

31. **E. heteroclinium,** *Gr.* (*n. sp.*). Suffruticose, scabrous-pubescent, or villous, with the hairs thickened at the base; branches cylindrical, striate; *leaves* opposite, petioled, ovate-lanceolate, *acuminate,* serrate above the cuneate base, 3-*nerved,* glandular with minute glands beneath; *heads* 3–5-*nate,* pedicellate, 20–25-flowered, in a simple or few-branched corymb; *receptacle convex;* involucral scales striate, ovate and oblong, blunt, innermost oblong-linear, bluntish; achenium slightly scabrous on the angles.—2′–3′ high, flowering from the first year; leaves 1½″–1″ long, 8‴–6‴ broad, villous on both sides; involucre 4‴ long, rounded at the base, 2‴ broad, pale: scales usually 7-striate, puberulous below the slightly tinged point, shining-glabrous below; flowers purple; style-branches clavate, achenium 2‴ long: pappus straw-coloured: hairs slightly thickened and scabrous at the top; convexity of the receptacle less high than broad.—HAB. Jamaica!, *Al., Macf., M'Nab, March,* on rocks in the Eastern mountains, Port Royal, Liguana hills.

32. **E. repandum,** *W.* Shrubby, subtomentose-pubescent; branches striate, slightly angular above; *leaves* opposite, petioled, small, ovate-roundish or deltoid, *blunt,* cuneate or

dentate above the subtruncate base, 3-*nerved*, glabrescent above, pubescent and glandular with minute glands beneath; *corymbs shortly trichotomous:* heads 8–15-flowered, pedicellate, fastigiate; *receptacle flat;* involucral scales oblong, striate, rounded at the top; achenium scabrous on the angles.—*Plum. Ed. Burm. t.* 130. *f.* 1.—E. atriplicifolium, *Lam.* (*non Vahl*).—Leaves 8‴–12‴ diam.; involucre 3½‴ long.—HAB. Bahamas!, *Swains.;* [Cuba, Haiti].

33. **E. trigonocarpum,** *Gr.* (*n. sp.*). Suffruticose, or shrubby; branchlets scabrous-pubescent, sub-6-gonal, striate; *leaves* large, opposite, petioled, ovate, acuminate, cuneate at the base, coarsely serrate, *septuplinerved,* glabrate with impressed veins above, scabrous-pubescent on the nerves, and glandular with minute glands beneath; *corymbs* many-branched, *trichotomous:* heads 8–15-flowered, numerous, approximate, pedicellate; *receptacle flat;* involucral scales oblong, striate, rounded at the top; *achenium* 3-*gonal,* subcompressed, scabrous on the angles.—A branched, leafy plant; leaves flaccid, 5″–3″ long, 2½″–1¼″ broad; corymbs 1″–3″ broad; involucre 3‴ long, 1‴ broad, tawny: scales tinged above, at length shining-glabrous, 3-striate at the middle; style-branches clavate; achenium 1‴ long, with 2 broader facets: angles prominulous: pappus white, soft: hairs slightly thickened at the top.—HAB. Dominica!, *Imr.*

§ 2. PHYLLACROCEPHALA, *As. Gr.—Receptacle somewhat dilated between the involucral scales, flat above them. Involucre cylindrical, at length turbinate, many-serial: scales spreading, or at the top squarrose, glabrescent.*

34. **E. ivifolium,** *L.* Herbaceous, suffrutescent; stem erect, trichotomously branched above, scabrous with incurved hairs, and glabrate, subcylindrical; *leaves* opposite, *lanceolate-linear,* tapering at each end, subsessile, 3-nerved, hispidulous or glabrescent, dotted beneath, remotely serrate about the middle; corymbs loose: heads 10–20-flowered, pedicellate; receptacle flat; *involucral scales* oblong, striate, *subtruncate-blunt at the recurved,* greenish *summit,* innermost oblong-linear, erect, rosy; achenium slightly scabrous on the angles.—2′ high; leaves 2″–1″ long, 3‴–2‴ broad; involucre 3‴ long; flowers purplish-blue.—HAB. Jamaica!, *Macf.*, in fields; [Cuba! to Guadeloupe!; Louisiana to Northern Mexico!].

§ 3. SUBIMBRICATA, *DC. Receptacle depressed, or minute, convex or flat above the involucral scales. Involucre turbinate or campanulate: scales* 3(–2)-*serial, imbricate, exterior shorter, rarely many-serial.*

* *Receptacle convex, broader than the pedicel.*

35. **E. cordifolium,** *Sw.!* Shrubby; branches cylindrical, hirsute above; *leaves* opposite, shortly petioled, rigid, *cordate, pointed, quintupliuerved, serrate,* scabrous-pilose with scattered hairs above, hirsute chiefly on the nerves and glandular beneath; corymbs contracted: *heads* 40–50-flowered, subsessile or shortly pedicellate; receptacle convex; involucral scales 3-serial, oblong-linear, bluntish, slightly striate, pilose, recurved-spreading; achenium glabrous: pappus-hairs flattish.—3′ high; leaves 3″–2″ diam.; involucre 2‴ long; receptacle 1½‴ diam.—HAB. Jamaica!, *Sw.*, on limestone rocks.

36. **E. montanum,** *Sw.!* Shrubby; branches cylindrical, hispid above; *leaves* opposite, shortly petioled, rigid, *cordate* or cordate ovate, pointed or bluntish, *quintuplinerved,* serrate (or subentire), hispid with scattered hairs, glandular beneath; corymbs trichotomous with contracted branches: *heads* 15–25-*flowered,* pedicellate; receptacle convex; involucral scales 2–3-serial, oblong-lanceolate, bluntish, striate, pilose, spreading; achenium glabrous: pappus-hairs flattish.—3′–4′ high; leaves 4″–1½″ long; receptacle half as broad as in the preceding, involucre 1‴ long; flowers whitish.—HAB. Jamaica!, *Sw.*, *Pd.*, in the mountains, S. Anns.

** *Receptacle minute.*

37. **E. cinereum,** *Gr.* (*n. sp.*). Suffruticose, stout; stem cylindrical, velvety-tomentose; *leaves* opposite, petioled, *ovate-lanceolate, long-acuminate,* unequally serrate, *triplinerved* above the abruptly tapering, entire base, which is as long as the petiole, puberulous above, hoary with tomentose-pubescent down and eglandular beneath; corymbs trichotomously paniculate: *heads* 10–7-*flowered,* pedicellate, very numerous; receptacle minute, convex; involucral scales 10, spreading, 3-serial, very unequal, striate, glabrescent, with a membranaceous, ciliate margin, rounded at the top, interior oblong or oval-oblong, exterior

1–2, short; achenium glabrous: pappus-hairs setaceous.—In habit it approaches *Hebeclinium*, but has a glabrous receptacle: it is to be compared with *E. pallescens*, DC., unknown to me. Leaves 3″, cuneate base 6‴ long; panicle 6″ diam.; involucre 2‴ long, straw-coloured; receptacle as thick as the slender pedicel; style-branches clavate, long-exserted; achenium 5-gonal, half as long as the white pappus.—HAB. Trinidad!, *Cr.*

38. **E. canescens,** *V.* Shrubby; branches cylindrical, tomentose; *leaves* opposite, petioled, small, *ovate-roundish, rounded-blunt*, sinuate-crenate or entire, 3-*nerved*, tomentose or puberulous above, hoary-tomentose beneath, slightly glandular; corymbs simple, umbelliform, terminal on racemose branchlets: *heads* 10-*flowered*, pedicellate; receptacle minute, flat; involucral scales spreading, 3-serial, very unequal, striate, puberulous on the back or glabrescent, interior oblong, bluntish, exterior ovate, blunt; achenium puberulous: pappus straw-coloured.—*Plum. Ed. Burm. t.* 128. *f.* 1. *Vahl, Symb. t.* 73. *Lam. Ill. t.* 672. *f.* 5. —E. sinuatum, *Lam.*—A small shrub, with spreading branches; leaves 5‴–10‴, involucre 2‴ long.—HAB. Antigua!, *Wullschl.*; [Haiti to Désirade!].

39. **E. iresinoides,** *Kth.* Suffruticose, slender, trailing; branches cylindrical, pubescent or glabrate; *leaves* opposite, petioled, *ovate, acuminate*, or ovate-lanceolate, *cuneate at the base*, remotely toothed or entire, *triplinerved*, villous-pubescent beneath, or glabrescent, subeglandular; corymbs in a loose panicle: *heads* 5-*flowered*, in small cymes, glomerate-sessile or pedicellate; receptacle minute, flat; *involucral scales* spreading, 3-serial, very unequal, striate, glabrous, *pointed*, interior oblong, exterior shortly elliptical; achenium scabrous on the angles: pappus white.—*Kth. N. Gen. t.* 340.—E. Sieberianum, *DC.!* Mikania serratifolia, *Sieb. Tr.* 72.—Leaves 3″–1″, involucre 2‴ long; flowers white.—HAB. Dominica!, *Imr.*; S. Vincent!, *Guild.*; Trinidad!, *Sieb.*, *Lockh.*, *Cr.*; [Martinique; Panama! to Venezuela].

40. **E. tetranthum,** *Gr.* (*n. sp.*). Suffruticose, slender, trailing; branches cylindrical, striate, slightly puberulous, or glabrate; *leaves* opposite, petioled, *oblong-lanceolate*, acuminate with a bluntish point, bluntish at the base, rigidulous, repand or subentire, *triplinerved*, reticulated, *glabrous*, subeglandular; corymbs trichotomous, in a large spreading panicle: *heads* 4-*flowered*, pedicellate, in small, fastigiate, special corymbs; receptacle very minute; *involucral scales* 10, loosely imbricate, 3–4-serial, striate, scabrous with minute glands, devoid of hairs, *blunt*, interior oval-oblong, the other oval; achenium scabrous on the angles: pappus tawny.—Leaves 3″–1¼″ long, 16‴–6‴ broad: petiole 3‴–4‴ long, not enlarged; panicle often 6″ long, pyramidal: internodes in the primary axis 1″ long, in the branches gradually shorter; heads ovoid; involucre tawny, 1‴ long: scales convex, 3-striate; achenium 5-gonal, black, as long as the pappus: pappus-hairs scabrous, flattened at the base.—HAB. Jamaica!, *Sw.*, mixed with *Critonia parviflora*, but devoid of pellucid dots, *Macf.*, *Pd.*, *Wullschl.*, in woods, Manchester.

§ 4. EXIMBRICATA, *DC.*—*Receptacle depressed, usually minute. Involucre spreading,* 1(–3)-*serial, often with shorter, exterior scales: scales of the principal series subequal.*

* *Stem shrubby; leaves glabrescent.*

41. **E. glandulosum,** *Kth.* Shrubby; *branches* cylindrical, *densely glandular*, with short, stipitate glands, devoid of hairs; *leaves* opposite, petioled, *rhomboid-ovate, sharply pointed*, coarsely serrate above the cuneate base and below the point, 3-*nerved*, nearly glabrous above, hispidulous along the nerves and glabrate beneath, obscurely glandular and with stipitate glands on the petiole and the lower part of the margin; corymbs fastigiate-trichotomous: *heads* 40–70-*flowered*, clustered, pedicellate; receptacle flat; involucral scales lanceolate, acuminate, striate, glandular-ciliate, most subequal: *corollæ abruptly dilated*; achenium glabrous.—*Kth. N. Gen. t.* 346.—E. adenophorum, *Spreng.*—Leaves 2″, petioles 10‴–8‴, involucre 2‴ long; style-branches slender, puberulous.—HAB. Jamaica!, *March*; [Mexico].

42. **E. ageratifolium,** *DC.* Shrubby; *branches* cylindrical, *glabrous*, puberulous at the summit, eglandular; *leaves* opposite, petioled, *ovate* or deltoid, with a bluntish point, coarsely serrate above the subtruncate or rounded base and below the point, *triplinerved near the base*, glabrous, eglandular; corymbs trichotomous: *heads* 10(–20)-*flowered*, pedicellate; receptacle minute; involucral scales lanceolate, bluntish, subestriate, glabrescent, most sub-

equal; *corollæ gradually tapering;* achenium glandular-scabrous.—6′ high; leaves 2″–1″, petioles 6‴–4‴, involucre 2‴ long.—HAB. Bahamas!, *Swains.;* [Cuba!, Haiti!; Texas, Northern Mexico!].

43. **E. nervosum,** *Sw.* Shrubby; *branches* cylindrical, *scabrous* with minute curved hairs; *leaves* opposite, petioled, rigid, *ovate, acuminate,* remotely and coarsely serrate about the middle, or subentire, triplinerved near the base or 3–5-nerved, *scabrous, densely dotted beneath* with minute glands; corymbs trichotomous, paniculate: *heads* 15–20-*flowered,* pedicellate; receptacle minute; involucral scales linear, acuminate, subestriate, glabrescent, most subequal; corollæ gradually tapering; achenium scabrous.—4′–5′ high; leaves variable, 3″–1″ (–4‴), petioles 4‴–1‴, involucre 1½‴ long; flowers whitish.—HAB. Jamaica!, *March,* in the mountains; [Haiti!].

44. **E. celtidifolium,** *Lam.* Shrubby, *glabrous;* branches slender, striate; *leaves* opposite, petioled, membranaceous, *ovate-lanceolate, acuminate,* with a narrow, usually protracted point, serrate about the middle, or entire, *quintupli(-tripli)-nerved, not scabrous,* glandular beneath; corymbs trichotomous: *heads* 10–8-flowered, pedicellate; receptacle minute; involucral scales lanceolate, acuminate or bluntish, slightly striate, glabrescent, often ciliate or subserrate above, most subequal; corollæ gradually tapering; achenium slightly scabrous on the angles.—Leaves 5″–3″, petioles 8‴–4‴, involucre 1‴ long; corollæ 1‴ long, whitish.—HAB. Jamaica!, *Macf.;* Dominica!, *Finl., Imr.,* S. Vincent!, *Guild.;* [Cuba, Guadeloupe; New Granada!].

** *Stem shrubby; branches rusty-villous.*

45. **E. corylifolium,** *Gr.* (*n. sp.*). Shrubby; *branches rusty-pilose,* cylindrical; *leaves* opposite, long-petioled, flaccid, *ovate,* pointed or bluntish, rounded-subtruncate at the base, coarsely and unequally serrate, 5–3-nerved, flabellate-veiny, nearly glabrous above, *pilose on the nerves beneath,* somewhat plaited along them, eglandular; corymbs roundish-subfastigiate, in a loose, trichotomous panicle: *heads* 20–30-*flowered,* pedicellate; receptacle small; involucral scales oblong-linear, blunt, 2–3-striate below the middle, puberulous, most subequal; *corollæ abruptly dilated;* achenium fusiform, scabrous on the angles.—2′–3′ high; leaves 2″–1½″ long, 1½″ 1″ broad: petiole 10‴–4‴ long; involucre 2‴ long; corollæ filiform below, campanulate from the middle, hairy on the teeth, 2‴ long; achenium black, 1‴ long: pappus-hairs straw-coloured, scabrous, slightly thickened at the top.—HAB. Jamaica!, *Macf., Wils., March,* in the mountains of S. Andrews, Coldspring, at 4000′ alt.

46. **E. triste,** *DC. emend.* Shrubby; *branches rusty-velvety,* cylindrical; *leaves* opposite, petioled, *deltoid-ovate,* obtusate, or bluntish, serrate above the base, or subentire, *triplinerved* with an accessory more spreading pair near the base, puberulous above, *rusty-velvety* chiefly on the nerves, and glandular *beneath;* corymbs roundish-subfastigiate: *heads* 20–10-*flowered,* pedicellate; receptacle minute; *involucral scales* oblong-linear, *acuminate,* estriate, rusty-pubescent, most subequal; *corollæ clavate above the base;* achenium linear, slightly scabrous.—Several of DC.'s characters do not agree, but belong to the allied Jamaica species, which he probably did not distinguish. Leaves 2″–1½″ long, variable in breadth: petiole 9‴–4‴ long; involucre nearly 3‴ long; corollæ rather abruptly dilated above the base; achenium 2‴ long.—HAB. Jamaica!, *M'Nab, March, Wullschl.,* in the mountains, Port Royal, Manchester.

47. **E. villosum,** *Sw.* Shrubby; *branches rusty-velvety,* cylindrical; *leaves* opposite, petioled, *deltoid,* obtusate, or bluntish, sinuate, obtusely serrate, or subentire, 3-*nerved,* puberulous above, *rusty-velvety* and glandular *beneath;* corymbs roundish-fastigiate; *heads* 8–15-*flowered,* pedicellate; receptacle minute; *involucral scales* lanceolate, *blunt,* estriate, rusty-pubescent, most subequal; *corollæ gradually tapering;* achenium linear, slightly scabrous.—*Sl. t.* 151. *f.* 2.—4′–6′ high; leaves variable, usually 1½″–3″ long, 1″–2″ broad: petiole 4‴–3‴ long; involucre, corollæ, and achenia nearly 1‴ long.—HAB. Bahamas!, *Swains.;* Jamaica!, all collectors, common in pastures; [Cuba!].

48. **E. schizanthum,** *Gr.* (*n. sp.*). Shrubby; *branches densely rusty-hispidulous,* cylindrical; *leaves* opposite, petioled, *lanceolate-oblong,* bluntish, obtusely serrate above, *uninerved,* regularly arch-veined, glandular, scabrous above, *rusty-pubescent beneath;* corymbs fastigiate, subcontracted: *heads* 6–8-*flowered,* pedicellate; receptacle minute; involucral scales 6, subequal, oblong, blunt, estriate, pubescent; *corollæ* glandular below, *cylin-*

drical to the middle: limb abruptly dilated, ovate at the base, *deeply* 5-*fid* into lanceolate, acuminate segments; achenium glandular.—*Sl. t.* 151. *f.* 3.—This remarkable species, approaching in its corolla to several *Mikaniæ*, cannot be separated generically from *E. triste*, with which it was probably confounded by DC. Leaves thickish, 2½″–1½″ long, 10‴–8‴ broad: petiole 4‴ long; corymbs 1″–2″ broad; involucre nearly 3‴ long; achenium linear, tapering at the base.—HAB. Jamaica!, *M'Nab.*

*** *Stem herbaceous, annual.*

49. **E. paniculatum,** *Schrad.* Annual, *herbaceous*, glabrescent; *leaves* membranaceous, petioled, *deltoid*, pointed, serrate above the cuneate or truncate base, 3-nerved, eglandular or with minute, distant glands, opposite, the uppermost or all superior alternate; corymbs loose, paniculate: heads 15–25-flowered, pedicellate; *involucral scales* lanceolate, bluntish, glabrous, striate, 2-*serial*, interior subequal, *exterior* about half as many, *half as long;* achenium glabrous.—*Colla in Act. Taurin.* 33. *t.* 8: a rhomboid-leaved form.—E. guadalupense, *Spreng.*, and Mikania Berteriana, *Spreng.* E. Berterianum, *Coll.* E. urticifolium, *Hb. Bks.* (*non Sm.*).—1′–3′ high; involucre 1½‴ long.—HAB. Jamaica!, all collectors, a common weed; Antigua!, *Wullschl.;* Trinidad; [Portorico!, French islands!; Honduras, Venezuela!, Peru!, Brazil].

E. AYAPANA, *Vent.* (*Desc. Fl.* 3. *t.* 203), an Eximbricate, with lanceolate, subsessile leaves, is naturalized in the West Indies (S. Croix), and cultivated as a medical plant.

14. CRITONIA, *P. Br.*

Head discoid, 3–5-flowered. *Involucre* imbricate, cylindrical. *Receptacle* naked, minute, convex. *Corollæ* clavate. *Achenium* shortly stipitate, 5-gonal with keels on the angles: pappus pilose.—Shrubs; leaves *opposite, petioled, uninerved, dotted with pellucid points and lines;* heads *usually glomerate-sessile, terminal on the branches of compound corymbs;* flowers *whitish.*

50. **C. Dalea,** *DC. Glabrous; leaves lanceolate* (or elliptical-lanceolate), tapering at both ends, serrate with small, often distant serratures; panicle subfastigiate: heads 3–5-nately sessile or subsessile, 4(–3–5)-flowered; involucre 4–3-serial: *scales* striate, blunt, interior oblong, *middle gradually shorter*, ovate, exterior very short: achenium hispidulous.—*Br. Jam. t.* 34. *f.* 1.—Eupatorium, *L.* Calydermis jamaicensis, *Spreng.*—6′–10′ high, odorous; leaves somewhat shining, 6″–3″ long, 12‴–6‴ (–18‴) broad: petiole 4‴–3‴, involucre 3‴–2‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, in the mountains, S. Andrews, Manchester; [Cuba!].

51. **C. parviflora,** *DC. Branches* and petioles *pubescent; leaves* ovate, elliptical, *or the superior elliptical-lanceolate*, pointed, serrate with approximate, often mucronate serratures; panicle large, pyramidal, expanded: heads 3–7-nately sessile, 3–2(–4)-flowered; involucre 3–4-serial: *scales* substriate, blunt, interior oblong, *middle abruptly shorter*, ovate, exterior very short; achenium slightly hispidulous, glabrescent.—Eupatorium, *Sw.!*—10′–16′ high, inodorous; leaves not shining, variable, the largest 8″ long, 4″ broad, the superior usually 4″–3″ long, 2″–1″ broad: petiole 12‴–4‴, involucre 2‴ long.—HAB. Jamaica!, all collectors, common.

52. **C. macropoda,** *DC.* "*Glabrous; leaves ovate-lanceolate*, acuminate; panicle fastigiate: *heads shortly pedicellate*, 3–5-nate, 5-flowered; involucral scales oblong, somewhat pointed; achenium hispidulous."—"Leaves 5″–7″ long, 2″ broad: petiole 1″ long."—HAB. Trinidad (*Sieb.*).

15. MIKANIA, *W.*

Head discoid, mostly 4-flowered. *Involucre* 1-serial, 4-leaved (or with an accessory bractlet). *Receptacle* minute, naked. *Corollæ* abruptly dilated above. *Style* with a glabrous, discoid tumour at the base. *Achenium* 5-gonal: pappus pilose.—The West Indian species are shrubby vines: leaves *opposite, petioled:* petioles *connected at the node;* heads *in paniculate spikes, racemes, or corymbs.*

* *Heads in compound, elongated spikes, or racemes.*

53. **M. hastata,** *W.* Puberulous, glabrescent; stem twining, cylindrical; *leaves*

membranaceous, *hastate-deltoid*, shortly acuminate, toothed-repand or subentire, 3-nerved; *heads* in compound, slender spikes, *subsessile:* bractlet much exceeding the rudimentary pedicel; involucral scales oblong, blunt; corolla-limb 5-fid; achenium scabrous-puberulous.—*Br. Jam. t.* 34. *f.* 3.—Eupatorium, *L.*, *Sw.*—Leaves usually 3″ diam.; involucre 1½‴ long; flowers white, odorous.—HAB. Jamaica!, *Al.*, in mountain-woods; [Cuba! to Venezuela!].

54. **M. Swartziana,** *Gr.* Glabrous; stem twining, cylindrical; *leaves* rigid, shining above, *ovate*, pointed (or roundish), quite entire, *triplinerved* near the rounded base, with the nerves prominent beneath; *heads in* compound, slender *racemes*, distant: bractlet subulate-linear, as long as or exceeded by the pedicel; involucral scales oblong, bluntish; corollæ clavate: limb 5-toothed; achenium glabrous.—Eupatorium Houstonis, *Sw. Obs.* (*non L.*).—*M. Houstonis*, W., of Mexico, has membranaceous, 5-plinerved leaves. Leaves 1½″–3″, involucre 1½‴ long; flowers white, inodorous.—HAB. Jamaica (*Sw.*), rare among shrubs; [Cuba !].

55. **M. scabra,** *DC.* Scandent; branches cylindrical, rusty-pubescent with rough, flexuose down; *leaves* shortly petioled, *ovate* or elliptical-oblong, bluntish, serrate or repand-entire, *quintuplinerved*, scabrous above, *rusty-pubescent* chiefly on the nerves, and densely glandular *beneath; heads in* compound, slender *racemes*, distant: bractlet lanceolate, bluntish, as long as the pedicel; involucral scales oblong-linear, striate, puberulous, with a recurved point; corolla-limb 5-fid; achenium glabrous: pappus tawny.—M. Fockeana, *Miq.!*—Leaves usually 3″ long, variable, more or less rigid; involucre 2‴ long.—HAB. Trinidad!, *Cr.*, S. Anns; [Guiana!].

** *Heads in short, corymbose racemes.*

56. **M. ovalis,** *Gr.* (*n. sp.*). Stem twining: branches cylindrical, glandular-puberulous above, glabrate below; *leaves* leathery, shortly petioled, *oval*, shortly pointleted-bluntish, quite entire, *triplinerved* near the base, with the nerves prominent beneath, glabrous, glandular beneath; *heads shortly racemulose, in trichotomous corymbs:* bractlet subulate-linear, as long as the pedicel; involucral scales spathulate-lanceolate, rounded at the top, glabrous; corolla-limb 5-fid; achenium glabrous.—Leaves 2″–1½″ long, 1½″–1″ broad: petiole 4‴–3‴ long; corymbs 2″ diam.: special racemes peduncled, 8–3-headed: pedicels 1‴ long, as long as the involucre; pappus straw-coloured.—HAB. Dominica!, *Imr.*, in the Conliabon mountain.

*** *Heads terminal on the corymb-branches.*

† *Heads glomerate-sessile or subsessile: the central ebracteolate.*

57. **M. Imrayana,** *Gr.* (*n. sp.*). *Glabrous;* stem twining, striate-subangular; *leaves elliptical-oblong or oval-roundish*, usually pointleted with a bluntish point, long-petioled, repand-entire, *quintuplinerved*, the uppermost ovate-lanceolate; *heads glomerate-sessile*, 5–3-nate: glomerules as long as their rusty-pubescent, ternate pedicels: peduncles in deltoid racemes: *bractlet* lanceolate, *nearly as long as, or half as long as the involucre;* involucral scales oblong-linear, blunt, glabrescent, ciliate at the subincurved top; corolla-limb 5-fid, shorter than the tube; achenium glabrous.—Leaves variable, chartaceous or rigid, cuneate or rounded at the base, 3″ long, superior much narrower: petiole usually 1″ long; racemes 2″ diam.; involucre 1½‴ long; pappus straw-coloured.—HAB. Dominica!, *Imr.*

58. **M. trinitaria,** *DC.* (*sec. Schultz Bip. in Pl. Kegel!*). Stem twining, striate-subangular, glabrescent; *leaves ovate or ovate-lanceolate*, acuminate, entire, *uninerved*, arch-veined, glabrous above, *pubescent beneath; heads glomerate-sessile* or subsessile, 3(–5)-nate: peduncles puberulous: glomerules in corymbs: *bractlet* ovate or lanceolate, *much shorter than* or ⅓ as long as *the involucre;* involucral scales oblong, blunt or bluntish, rigid, striate, pubescent; corolla-tube as long as the involucre, much longer than the 5-fid limb; achenium slightly puberulous.—M. volubilis, *Pœpp. Cub.!*—Leaves 3″–4″, petioles 6‴, involucre 3‴–4‴ long; pappus pale-rusty.—HAB. Trinidad (*Sieb.*); [Cuba!; Guiana!].

59. **M. latifolia,** *Sm.* *Glabrous;* stem twining, striate-cylindrical or subangular above; *leaves ovate*, shortly pointleted, subentire, *quintuplinerved*, glandular beneath; *heads ternately sessile:* peduncles puberulous: glomerules in corymbs: *bractlet* lanceolate, ⅓ *as long as the involucre;* involucral scales oblong, bluntish, rigid, striate, puberulous; corolla-limb deeply 5-fid, as long as the tube: lobes oblong-lanceolate; achenium slightly glandular.—M. Badieri, *DC.*—Leaves 5″–3″ long, 3″–1½″ broad: petiole 12‴–6‴, involucre 3‴ long;

pappus pale-rusty.—HAB. Jamaica !, *Macf.*, *Pd.*, Westmoreland; S. Lucia (*Sm.*); [Guadeloupe !].

†† *Heads pedicellate, or the central only sessile: bractlet at the base of the involucre, or wanting.*

60. **M. rotunda,** *Gr.* (*n. sp.*). Stem scandent, glabrous, striate-cylindrical; *leaves* rigid, *oval-roundish,* shortly apiculate, quite entire, *triplinerved,* with the nerves prominent beneath, and a delicate, suprabasilar pair, glabrous, eglandular; *corymbs trichotomous,* in axillary, loose panicles: peduncles puberulous: *pedicels ternate, little shorter than the head:* bractlet lanceolate-linear, one-third as long as the involucre, or wanting; involucral scales oblong-linear, blunt, substriate, glabrous; *corolla* subclavate: *limb cylindrical,* as long as the tube, 5-toothed with deltoid teeth; achenium glabrous.—A stout climber; leaves 4″–3″ long, 3″–2½″ broad: petiole 8‴–10‴ long; panicles 6″ long, expanded; corymbs 2″–1½″ broad: lateral pedicels 2‴, central 1‴–1½‴ long; involucre 3‴ long; pappus tawny-whitish.—HAB. Trinidad !, *Cr.*, at Tocuche.

61. **M. gonoclada,** *DC.* *Stem* twining, angular, *pubescent; leaves deltoid,* broadly cordate, or subcordate at the base, 5-*nerved,* irregularly dentate or subentire, pubescent beneath (or glabrescent), *inferior as long as the petiole,* superior often ovate; corymbs paniculate, special ones contracted: peduncles villous-pubescent: *pedicels ternate, much shorter than the head:* bractlet lanceolate or elliptical-lanceolate, acuminate, half as long as the involucre; involucral scales oblong, substriate, bluntish or pointed, pubescent; *corolla-limb* 5-*fid, campanulate,* as long as the tube; achenium glabrous.—M. surinamensis, *Miq.!:* a form with glabrescent, pointed involucral scales. M. Guaco, *Desc.* (*Fl.* 3. *t.* 197): the figure combines the inflorescence of this species with the uninerved leaves of *M. Guaco,* Bonpl.—Leaves 4″–2″ diam.; involucre 3‴ long; pappus pale-rusty.—HAB. Jamaica !, *Macf.*, *Pd.*, *Al.*, *Wils.*, *March;* [Cuba ! and Mexico ! to Guiana ! and Brazil].

62. **M. orinocensis,** *Kth.* *Stem* twining, *glabrescent,* striate-cylindrical, slightly angular above; *leaves* membranaceous, *cordate* with a deep sinus, pointleted or acuminate, 5-*nerved,* dentate or subsinuate-repand, glabrescent; special corymbs usually umbellate: peduncles angular, slightly winged at the base, glabrescent: *pedicels* 3(–5)-*nate,* usually shorter, often much shorter than the head: bractlet lanceolate, about half as long as the involucre; involucral scales oblong or elliptical-oblong, blunt or mucronate, glabrescent, striate; *corolla-limb campanulate,* nearly as long as the tube, 5-*toothed* with deltoid teeth; achenium glandular.—M. umbellifera, *Gardn.!* M. Sieberiana, *DC.* M. suaveolens, *Kth.* (compared by Dr. Alexander in the British Museum): a pubescent form. M. atriplicifolia, *Schultz Bip.!:* a form with longer, excrescent bractlets. M. deltoidea, *Pœpp.!:* small-leaved specimens.—Leaves 3″–2″ long; sinus often oblong, or deltoid, and obsolete in the upper leaves; involucre 2‴ long; pappus pale-rusty. The determination of this species rests chiefly upon Seemann's Panama specimens, compared by Steetz with Humboldt's plant; of allied species *M. alata,* DC. (*Kleinia,* Mey.!, *M. scandens,* Pl. Spruce!) has a 5-fid corolla-limb, and larger, acute involucral scales, *M. scandens,* W. (of the United States) a clavate, 5-toothed corolla, and narrow, acute scales.—HAB. Jamaica !, *Pd.*, *Al.*, *March;* S. Vincent !, *Guild.;* Trinidad !, *Lockh.*, *Sch.*, *Pd.*, *Cr.*, common in moist places, along roadsides; [Cuba !, Mexico ! to Ecuador !, Guiana ! to Brazil].

Series 3. **Asteroideæ.**—*Style-branches in the perfect or ♂ flowers flat, tapering beyond the stigmatic lines into a lanceolate or deltoid appendage, which is hairy on the outside (or reduced).*—Leaves alternate; pappus pilose in the West Indian genera.

16. ERIGERON, *L.*

Head radiate: the ray-flowers ♀, numerous, the disk wholly or partly hermaphrodite. *Involucre* few–1-serial. *Receptacle* naked. *Anthers* tailless. *Achenium* compressed: pappus pilose.—*Herbs; ray purplish or white.*

Sect. 1. CŒNOTUS, *Nutt.*—*Ray-flowers shortly or not exserted. Achenium 2-nerved: pappus 1-serial.*—Root annual.

* *Heads corymbose or solitary.*

63. **E. jamaicensis,** *Sw.* Puberulous, glabrescent; *stems* ascending, few–1-headed,

bearing reduced, distant leaves; lowest leaves rosular, spathulate, few-serrate or entire, the cauline minute, lanceolate-linear; involucral scales linear, pointed, glabrescent, 2–3-serial, exterior short; *ray-flowers* filiform, sub-1-serial, *shortly exserted;* achenium pubescent: pappus pale-rusty.—*Sw. Obs. t.* 8. *f.* 2.—E. cuneifolius, *DC.*: the entire-leaved form.—6″–18″ high; heads 4‴ diam.: ray whitish.—HAB. Jamaica!, *Macf.*, *Pd.*, *M'Nab*, *Wullschl.*, in pastures and fields; [Cuba!, Haiti, Portorico].

64. **E. rivularis,** *Sw.* Pubescent; *stem leafy,* ascending at the base; *leaves* spathulate-lanceolate (or spathulate), broad at the base, pinnatifid above the middle, or with a few large serratures, rarely subentire, the *lowest rosular; heads corymbose;* involucral scales linear, bluntish at the acuminate top, 2–3-serial, exterior shorter; *ray-flowers* filiform, sub-1-serial, *shortly exserted*; achenium pubescent: pappus pale-rusty.—*Sl. t.* 152. *f.* 3.—E. jamaicensis, *L.*—Heads of the preceding.—HAB. Jamaica!, *Pd.*, along river-banks; [Cuba!].

65. **E. strictus,** *DC.* Nearly *glabrous; stem leafy,* slender; *leaves scattered,* scabrous on the margin, pointed or acuminate, inferior spathulate-lanceolate, remotely serrulate, superior lanceolate or linear, entire; *heads corymbose;* involucral scales linear, spreading, sharply acuminate, glabrous, 2–3-serial, exterior shorter; *ray-flowers rounded at the top,* several-serial, *very shortly exserted:* disk few-flowered; achenium glabrescent: pappus tawny, subequal.—8″–2′ high, devoid of a basilar rosule; involucre 2‴ long: ray-flowers 20–25, less than 1‴ longer than the involucre, revolute at the top.—HAB. Jamaica!, *M'Nab;* [Mexico!].

66. **E. spathulatus,** *V. Pilose; stem leafy,* erect; *leaves* scattered, inferior oval or spathulate, contracted into a long linear base, coarsely few-serrate, superior lanceolate, subentire; *heads corymbose;* involucral scales linear, sharply acuminate, glabrescent, sub-1-serial, few exterior short; *ray-flowers filiform,* many-serial, *included:* disk few-flowered; achenium pubescent: pappus pale-rusty.—1′–3′ high; heads 4‴ diam.: ray-flowers very numerous, as long as the pappus.—HAB. Antigua!, *Wullschl.;* [Virgin Islands].

** *Heads in a racemiform panicle.*

67. **E. bonariensis,** *L.* Pilose; stem leafy, erect; *leaves lanceolate,* inferior few-serrate, often broader, or pinnatifid-sinuate, superior entire; *panicle racemiform:* inferior branches longer; involucral scales linear, acuminate, sub-1-serial, exterior shorter; *ray-flowers filiform,* many-serial, *included:* disk-flowers 5-dentate; achenium with scattered hairs, or glabrescent; pappus tawny.—*Dill. Elth.* 2. *f.* 334; the sinuate-leaved form.—Conyza ambigua caribæa, *Less.* C. albida, *W.*, *Less.*, (*Linnæa*, 6. *p.* 136).—1′–3′ high; leaves 2‴–6‴ broad; heads 4‴ diam., white.—HAB. Jamaica!, *Macf.*, *Dist.*, *Pd.*, *March*, a weed, in pastures; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.*, in canefields; [Central America to Buenos Ayres].

68. **E. canadensis,** *L.* Hispidulous or glabrescent; stem leafy, erect; *leaves lanceolate-linear,* ciliate, subentire; *panicle racemiform;* involucral scales linear, bluntish, 3-serial, exterior shorter; *ray-flowers linear,* many-serial, *included:* disk-flowers 4-dentate; achenium glabrescent; pappus straw-coloured.—*Rchb. Ic. Germ. t.* 917. *f.* 1.—1′–3′ high; leaves 1‴–2‴ broad; heads 3‴ diam., whitish.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*, a common weed; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*, Trinidad; [Canada to Brazil; Northern Europe to the Cape and Persia!].

Sect 2. STENACTIS, *Cass.—Achenium 2-nerved: pappus 2-serial: exterior series minute.*

69. **E. apurensis,** *Gr.* Pilose, suffrutescent; stem erect, fastigiate-branched above; inferior leaves obovate or spathulate, coarsely serrate, or pinnatifid at the base, superior lanceolate, few-serrate or entire; *corymbs* terminal on the branches, *in a spreading, fastigiate panicle;* involucral scales linear, sharply acuminate, glabrescent, 2-serial, exterior shorter; *ray-flowers filiform,* many-serial, *included;* disk few-flowered, hermaphrodite; achenium puberulous, glabrescent: pappus pale-rusty, exterior setaceous.—Conyza, *Kth.*—Resembling several *Conyzæ, e. g. C. lyrata,* Kth., and *C. lurida,* Schmidt, which however are true *Conyzæ,* having tubular-filiform, exterior flowers, which in our species are ligulate. 3′–4′ high; inferior leaves $2\frac{1}{2}$″ long, $1\frac{1}{2}$″ broad; heads 4‴ diam.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Sch.*, *Cr.;* [Mexico! to Venezuela].

17. BACCHARIS, *L.*

Heads discoid, diœcious (♀ sometimes with a few central ♂; ♂ with a few peripherical ♀ flowers). *Involucre* imbricate. *Receptacle* naked. *Corollæ* ♂ dilated above, ♀ filiform. *Anthers* tailless. *Achenium* costate: pappus pilose.—Shrubs, rarely herbs, *often resinous;* flowers *whitish, or yellow.*

* *Branches leafy, wingless; leaves* 3-*triplinerved.*

70. **B. speciosa,** *DC.* Glabrous; *branches cylindrical; leaves elliptical or elliptical-oblong, mucronate,* tapering into a short, clasping petiole, 3-*nerved* and loosely *reticulated-veiny,* entire; heads hemispherical, in a contracted, fastigiate corymb; peduncles angular; involucral scales in both sexes ovate-roundish, ciliate, exterior mucronulate; achenium glabrescent; pappus rusty, in ♀ uniserial.—6′–8′ high; leaves 5″–3″ long, 20‴–15‴ broad; heads 3‴ diam.—Hab. Dominica!, *Imr.*, in the mountains; [Guadeloupe].

71. **B. nervosa,** *DC.!* Glabrous, somewhat leprous; *branches striate-subangular,* virgate; *leaves* rigid, *ovate-lanceolate or lanceolate, acuminate,* acute at the base, shortly petioled, 3-*nerved,* or slightly triplinerved, *veinless above,* entire; corymbs several(-few)-headed, in a spreading panicle: heads hemispherical, involucral scales ovate and oblong-lanceolate, bluntish or blunt, ciliate.—Eupatorium, *Sieb. Tr.* 76 (*non Sw.*).—Habit of *B. rhexioides,* Kth. Leaves 3″–1″ long, 12‴–3‴ broad; heads 2‴ diam.—Hab. Trinidad!, *Sieb., Lockh., Cr.;* [Guadeloupe; Costarica].

** *Branches leafy, wingless; leaves* 1-*nerved.*

72. **B. dioica,** *V.* Glabrous; branches cylindrical, angular above; *leaves* leathery, *oblanceolate or obovate,* bluntish, mucronulate or retuse, shortly petioled, 1-*nerved,* entire, punctate beneath: veins inconspicuous, or 2–4 longer ones from near the base; corymbiferous branches nearly fastigiate: *heads* turbinate-cylindrical, *pedicellate;* involucral scales oblong-lanceolate, bluntish, glabrous, exterior ovate; achenium glabrous: pappus pale-rusty, in ♀ 1-serial.—*Vahl, Symb. t.* 74.—B. Vahlii, *DC.*—Leaves 8‴–2½″ long, 5‴–6‴ broad; heads 2‴ long.—Hab. Bahamas!, *Swains.*, Turk Islands!, *Hjalmars.;* Jamaica!, *Pd.*, *M'Nab;* Montserrat; [S. Croix, Désirade!].

73. **B. myrsinites,** *Pers.* Puberulous above, early glabrous; branches cylindrical, angular above; *leaves* rigid, *elliptical-lanceolate,* elliptical-oblong or lanceolate, *sharply acuminate* or cuspidate, acute at the base, shortly petioled, or subsessile, 1-*nerved,* few-serrulate or subentire, punctate beneath: veins equal, pinnate, inconspicuous above; *heads* in contracted corymbs, *subsessile-glomerate,* ovoid-cylindrical; involucral scales ovate and ovate-oblong, bluntish, ciliate, puberulous, glabrescent.—Conyza, *Lam.*—Leaves 2″–1″ long, 6‴–8‴ broad; heads 3‴ long.—Hab. Jamaica!, *Pd., M'Nab,* in pastures, S. Thomas i. E.; [Haiti].

*** *Branches wingless, subaphyllous.*

74. **B. scoparia,** *Sw.* Glabrous; *branchlets* slender, rigid, densely approximate, *broom-like,* tetragonal, *subaphyllous,* viscous; reduced leaves distant, oblong-linear, blunt, sessile, subentire, 1-nerved, veinless; heads small, ovoid, distant in loose, rigid corymbs, long-pedicellate; exterior involucral scales ovate, bluntish, interior ovate-lanceolate, ciliate at the bluntish point; achenium glabrous: pappus whitish, 1-serial.—*Br. Jam. t.* 34. *f.* 4.—Calea, *L.;* Chrysocoma, *L.;* Molina, *Less.*—3′–8′ high, shrubby or arborescent; leaves 2‴–3‴ long; heads 1½‴ long, whitish.—Hab. Jamaica!, all coll., on the summits of the mountains, S. Andrews, Port Royal.

18. PLUCHEA, *Cass.*

Head discoid: ♀ flowers exterior, many-serial, subtruncate-filiform; ♂ central, campanulate above, furnished with a subentire style. *Involucre* imbricate. *Receptacle* naked. *Anthers* 2-tailed. *Achenium* subcylindrical: pappus pilose.—Shrubs *or* herbs, *often fetid; heads purplish, corymbose.*

75. **P. odorata,** *Cass.* *Shrubby;* branches rusty-tomentose; leaves oblong or elliptical-oblong, pointed, quite entire, or denticulate, repand, glandular-puberulous above, hoary-

pubescent or tomentose beneath, petioled; corymbs in a fastigiate panicle, tomentose: heads pedicellate, hemispherical; *involucral scales ovate or ovate-oblong*, bluntish, tomentose: *interior row oblong-linear*, acuminate, scariose.—*Desc. Fl.* 3. *t.* 217. Conyza, *L.*: the denticulate-leaved form, confounded by Linnæus with the following species. C. carolinensis, *Jacq.*: the common, entire-leaved form.—4′–6′ high; heads pink, 4‴ diam.—HAB. Bahamas!, *Swains.*; Jamaica!, all coll.; Antigua!, *Wullsch.*, Dominica!, *Finl.*; [Cuba! to French islands!; Mexico! to Darien! and Venezuela!].

76. **P. purpurascens,** *DC. Annual*, suffrutescent; branches pubescent; leaves oblong-lanceolate or lanceolate, unequally serrate, repand, softly puberulous-subtomentose or glabrescent, petioled; corymbs subfastigiate, tomentose; heads pedicellate, subglobose; *involucral scales* rusty-pubescent, spreading, *exterior ovate, bluntish, gradually passing into the interior, ovate-lanceolate, pointed row.*—*Sl. t.* 152. *f.* 1.—Conyza, *Sw.* P. glabrata, *DC.*: the glabrescent form.—3′–4′ high; heads purple, 2‴–3‴ diam.—HAB. Bahamas!, *Swains.*; Jamaica!, all coll., common in the lowlands; Antigua!, *Wullschl.*; [Key West; Cuba! to Guadeloupe!; Mexico! to New Granada!].

19. PTEROCAULON, *Ell.*

Character of *Pluchea*, but involucres deciduous and glomerate, or single heads spicate.—Suffruticose, virgate herbs, resembling *Gnaphalium*; leaves *decurrent*; heads *whitish.*

77. **P. virgatum,** *DC. Leaves* arachnoid above, white-tomentose beneath, serrulate with callous teeth, *oblong-linear, inferior broader*, oblong or elliptical-oblong, superior usually distant, long-decurrent; heads glomerate (or single) in oblong spikes: the inferior glomerules distant; involucre woolly at the base: scales linear-acuminate, recurved at the glabrous point.—*Sl. t.* 152. *f.* 5.—Conyza, *L.* C. alopecuroides, *Sw.* (Pterocaulon, *DC.*): a form with few narrow leaves.—Variable in habit, the number of branches, the leaves more or less distant, the narrow ones either prevailing or confined to the upper part of the stem, and in the spikes either compact or slender, with a few or most glomerules distant. 2′–4′ high, erect; narrow leaves, usually 4‴, broad ones 9‴–15‴ broad; involucre 2‴ long.—HAB. Jamaica!, all coll., in dry, sandy savannahs; Antigua!, *Wullschl.*; Trinidad!, *Lockh.*, *Pd.*, *Cr.*, in barren savannahs; [Virgin and French islands!, *Sieb. Mart.* 194; New Granada!].

Series 4. **Senecionideæ.**—*Style-branches in the perfect or ♂ flowers flat-convex, truncate and penicillate at the top, or bearing an hispidulous appendage* (*or rarely reduced*).

Subseries 1. **Melampodineæ.**—*Flowers unisexual. No pilose pappus.*—Leaves usually opposite.

20. CLIBADIUM, *L.*

Head discoid, heterogamous, rarely radiate: ♀ flowers exterior, 1-pluriserial, interior ♂. *Involucre* subglobose, imbricate: interior scales supporting the ♀ flowers, and becoming paleæ between their inner series. *Receptacle* convex, naked within the ♀ flowers. *Corollæ* ♀ 3-fid: ♂ 5-fid, with a simple, hispid style, included within the black column, and the ovary excrescent, stipitiform. *Achenium* biconvex, naked, at length drupaceous.—Suffrutescent, scabrous, large-leaved herbs *or* shrubs; leaves *opposite, petioled, triplinerved-arch-veined*; heads *white, in corymbose panicles.*

* *Female flowers* 1-*serial* (Euclibadium, *DC.*).

78. **C. asperum,** *DC.* Branchlets hirsute above; leaves ovate-lanceolate or ovate, acuminate, serrulate, scabrous-hispidulous, hirsute on the midrib beneath; heads shortly serial on the corymb-branches, subsessile; involucral scales roundish, strigose; ♀ *flowers* 1-*serial*, 5–7, ♂ *as many*: ♂ *corollæ campanulate nearly from the base*, papillose at the lobes; achenium villous above the middle; sterile stalks densely villous.—*Aubl. t.* 317. *Pœpp. N. Gen. t.* 253.—Bailleria, *Aubl.* Trixis scabra, *Sw.* C. peruvianum, *Pœpp.*! *Pœpp.* C. trinitatis, *DC.*! C. caracasanum, *DC.*—5′–6′ high; leaves 3″–6″, petiole 4‴–8‴ long; heads 2‴ diam.—HAB. Jamaica!, *Dist.*; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Sieb. Tr.* 71; [Mexico! to Brazil! and Peru!].

79. **C. Badieri,** *Gr.* Branchlets strigose-scabrous; leaves ovate-lanceolate or ovate, acuminate, cuneate at the base, remotely serrulate with incurved teeth, glabrescent above, adpressed-hispidulous beneath; heads pedicellate, corymbose; involucral scales ovate, acute, substrigose with scattered hairs; ♀ *flowers* 1-*serial*, 5–7, ♂ 10–12: ♂ *corollæ abruptly and broadly campanulate above the* cylindrical, short *base*, densely papillose at the lobes; achenium obovate, villous at the top; sterile stalks villous.—C. terebinthaceum, β Badieri, *DC. Pl. Carib.* (*non* Trixis terebinthacea, *Sw.*).—A shrub (*Imr.*), but the branches look like a suffruticose herb, as in the preceding; leaves 5″–3″, petiole 6‴–10‴ long; corymbs 2″ diam. terminal and axillary: heads 2‴ diam.—HAB. Dominica !, *Imr.*; [Guadeloupe !, in woods along rivers].

80. **C. terebinthaceum,** *DC.* (*exclus.* β). "Branchlets subhirsute; leaves ovate or oblong, acuminate, serrulate, hispidulous above, hirsute beneath; heads subsessile; involucral scales oblong, acute, pubescent; ♀ *flowers* 1-*serial* (DC.), ♂ *numerous: corollæ clavate* (*ex ic. Sw.*); achenium hirsute above the middle."—*Sw. Fl. t.* 26, *f. inf.*—Trixis, *Sw.*—The style in the ♂ flower is said by Sw. to be bifid, and figured thus, which, if confirmed, would be a difference from all other species.—HAB. Jamaica (*Sw.*), in stony valleys of the Western districts.

** *Female flowers 2-pluriserial.*

81. **C. Alexandri,** *Gr.* (*n. sp.*). Branchlets and corymbs hirsute; leaves broadly ovate, with a bluntish point, minutely denticulate-serrate, scabrous above, hispidulous and hirsute on the midrib beneath; heads subsessile-conglomerate, corymbose; involucral scales ovate, pointed, strigose, 3-striate; ♀ *flowers* 2-*serial*, ♂ 5–2: ♂ *corollæ subcylindrical from the base*, slightly papillose at the lobes; achenium obovate, glabrous, with a terminal tuft of hairs; sterile stalks shortly pilose at the top.—8′–10′; leaves 7″–5″ long, 4″–3″ broad: petiole 1″–1½″ long; corymbs 3″ diam., terminal: heads 1½‴ diam.—HAB. Jamaica!, *Al.*, *Wils.*, S. Anns at Moneague, Cunacuna Pass.

82. **C. erosum,** *DC.* Branchlets strigose; leaves ovate, shortly acuminate, cuneate at the long-petioled base, unequally inciso-serrate, scrabrous above, adpressed-hispidulous beneath; heads pedicellate, corymbose; involucral scales ovate-roundish, strigose with scattered down; ♀ *flowers* 2-*serial*, ♂ 10–12: *corollæ abruptly and broadly campanulate* above the cylindrical base; achenium obovate, pubescent near the summit; sterile stalks shortly puberulous above.—Trixis, *Sw.*—Not poisonous, as is *C. Badieri* (Imr.). Leaves 5″–6″ long, 5″–2″ broad: petiole 1½″–2″ long; heads 2‴ diam.—HAB. S. Kitts, Dominica!, *Imr.*; Trinidad!, *Lockh.*

83. **C. fragiferum,** *Gr.* (*n. sp.*). Branchlets and corymbs densely hirsute; leaves ovate, pointed, broadly cuneate, unequally inciso-dentate or serrate, scabrous-hispidulous, hirsute on the midrib beneath and on the petiole; heads corymbose, superior subsessile; involucral scales ovate, pointed, strigose; ♀ *flowers* 4–3-*serial*, ♂ *few*: ♂ *corollæ clavate*; achenium roundish, shortly pilose at the subtruncate summit; sterile stalks glabrous.—C. erosum, *Pl. Carib.* (*non DC.*). Latreillea peruviana, *H. Hook.* (*non Pœpp.*).—Leaves 3″–6″ long, 1½″–4″ broad: petiole 8‴–12‴ long; fruit-bearing heads 3‴ diam., globose, distinguished from the other species by the number of spreading, prominent paleæ, which with the involucral scales cover the whole of it. *Latreillea peruviana*, Pœpp., having a subcylindrical receptacle and different ♀ flowers, is no congener.—HAB. S. Vincent!, *Guild.*; [Guadeloupe!, in the mountains along rivers].

21. OGIERA, *Cass.*

Head discoid, heterogamous, 6–8(–12)-flowered: exterior flowers ♀, interior ♂. *Involucre* foliaceous, 1-serial. *Receptacle* paleacous. *Anthers* distinct, 2-tailed, becoming blackish. *Style* 2-fid: branches with no hispidulous appendage. *Achenium* obovate-prismatical, crowned with a ciliate tubercle.—A hispid *or* pubescent, diffuse, annual herb; leaves *opposite, triplinerved, glandular beneath*; heads *subsolitary in the axils, peduncled, cernuous, yellowish.*

In the Pl. Caribææ I reduced this plant to *Tetranthus*: but since I had the opportunity of examining the original *T. litoralis*, Sw. of Haiti, and I am now rather inclined to consider the paleæ of *Tetranthus* as inner involucral scales and its receptacle as naked (in con-

formity with the allied genera *Pinillosia* and *Microcoecia*): hence *Ogiera* would be much more distant, having paleæ at all flowers, and shortly-tailed anthers.

84. **O. ruderalis,** *Gr.*—Melampodium, *Sw.* Kegelia, *Schultz. Bip.!* Tetranthus, *Pl. Carib.* O. triplinervis, *α* leiocarpa, *Cass.*—Variable in down, and in the achenia tubercled or smooth. Leaves ovate, bluntish, shortly petioled; paleæ scariose, ciliate above, acuminate, exceeded by the 5-leaved involucre.—Hab. Jamaica!, *Al.*, a weed; Trinidad!, *Sch.*, *Cr.*; [Cuba!, Virgin and French islands!; Venezuela!, Guiana!, Brazil!].

22. ACANTHOSPERMUM, *Schrk.*

Head heterogamous, 10–20-flowered: exterior flowers ♀, minutely ligulate, interior ♂ tubular. *Involucre* foliaceous, 1-serial. *Receptacle* paleaceous: exterior paleæ bearing uncinate prickles, including the achenia. *Column* becoming blackish, including a simple, pubescent style.—*Achenium* compressed, naked.—Diffuse, annual herbs; leaves *opposite, glandular beneath;* heads *subsessile, terminal, often between dichotomous branches, yellow.*

85. **A. humile,** *DC.* Pubescent; leaves lyrate or obovate, subsessile at the tapering base, unequally dentate; ♀ flowers 5–4; *paleæ* cuneiform around the achenium, devoid of grooves, *with 2 diverging beaks at the angles of the truncate top.*—Melampodium, *Sw.*—Hab. Jamaica!, all coll., a weed; [Cuba!, Haiti; Panama!].

86. **A. xanthioides,** *DC.* Pubescent; leaves obovate, petioled, denticulate (or subentire); ♀ flowers 5; *paleæ* oblong around the achenium, sulcate, *blunt at the unarmed top.*—Centrospermum, *Kth.* Melampodium australe, *L.* A. hirsutum, *DC.* Siegesbeckia flosculosa, *Sieb. Mart.* 204 (*non L'Hér.*): a glabrescent form.—Hab. Caribbean Islands, a weed; [Swedish and French islands!; Venezuela, Guiana! to Buenos Ayres!].

23. ENHYDRA, *Lour.*

Head discoid, heterogamous: exterior flowers ♀, pluriserial, interior ♂. *Involucre* foliaceous, 4-leaved: 2 leaves interior. *Receptacle* paleaceous: paleæ including each achenium in pairs, sulcate-striate. *Column* becoming blackish. *Style* 2-fid: branches with an hispidulous appendage. *Achenium* compressed-spathulate, naked: corolla-tube jointed with the limb, subpersistent; sterile achenia in ♂ flowers slender, trigonal.—Aquatic herbs, *ascending from a radicant base;* leaves *opposite, glandular beneath;* heads *solitary, axillary or terminal.*

87. **E. sessilis,** *DC.* Glabrescent or scabrous; leaves sessile, oblong or ovate, pointed, rounded at the base, remotely serrate; heads sessile.—Meyera, *Sw.*—The South American forms, which I compare, are little distinct—Hab. Jamaica!, *Wullschl.*; [Haiti to Brazil!].

24. PARTHENIUM, *L.*

Head heterogamous: 5 exterior flowers ♀, minutely and broadly ligulate, interior numerous, ♂. *Involucre* 2-serial. *Receptacle* paleaceous: paleæ dilated above, geminate at the achenia. *Anthers* pale: style simple, pubescent. *Achenium* compressed: pappus of 2 scales or obsolete.—Annual *or* suffrutescent herbs; leaves *alternate;* heads *in corymbs or panicles, whitish.*

88. **P. Hysterophorus,** *L.* Annual, tall, hispidulous; leaves 2-pinnatipartite, the uppermost entire; heads in spreading panicles; *pappus-scales oblong, blunt.*—*Heads* 1¼‴–2‴ diam.—Hab. Bahamas!, *Swains.*; Jamaica!, *Macf.*, *Pd.*, a weed; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!; [Cuba! and Louisiana! to Northern Patagonia! and Mendoza!].

25. AMBROSIA, *L.*

Heads monœcious, homogamous, superior ♂, inferior ♀. ♂: *Involucre* of united scales. *Receptacle* paleaceous, rarely naked: paleæ linear. *Anthers* distinct, pale: connective with a terminal, inflexed bristle. *Style* simple, penicillate at the top. ♀: *Involucre* closed, 1-flowered: flower naked. *Achenium* ovoid, naked.—Annual *or* suffrutescent herbs; leaves

opposite or superior alternate, dissected; ♂ heads *in slender racemes or spikes,* ♀ *in clusters at the base of these, or in the axils of the uppermost leaves.*

89. **A. artemisifolia,** *L.* Stem erect, stout, villous or scabrous-pubescent, branched; leaves 2-pinnatifid, hoary beneath; *receptacle in* ♂ *naked; involucre* obovoid around the achenium, *armed with* 5–6 *acute points.—Desc. Fl.* 1. *t.* 55.—A. elatior, *L.*, *Sw.*, *Sieb. Mart.* 214.—2′–4′ high; ♂ heads 1‴–2‴ diam.

a. jamaicensis. Scabrous-pubescent; ultimate leaf-lobes oblong-lanceolate, acuminate.

β. trinitensis. Villous; ultimate leaf-lobes oblong or ovate, blunt.

Hab. Jamaica!, *M'Nab,* in waste places (*a*); cultivated in Trinidad! (*β*); [Canada to Brazil!].

90. **A. psilostachya,** *DC.* Pubescent; stem erect, branched above; leaves pinnatipartite: segments serrate or pinnatifid at the base; *racemes paniculate; receptacle in* ♂ *paleaceous; involucre* obovoid around the achenium, *unarmed,* pubescent.—A. coronopifolia, *T. Gr.*—Habit of the preceding, 2′–5′ high; leaves variable.—Hab. Jamaica!, all coll., a weed, forming thickets in waste places; [Cuba!; Illinois to Mexico!].

91. **A. crithmifolia,** *DC.* Stem ascending, suffruticose, villous-canescent; leaves thickish, hirsute-canescent chiefly beneath, the inferior 2-pinnatipartite with short, blunt lobes; *racemes* spiciform, *distant,* the terminal much larger, nodding; *receptacle in* ♂ *paleaceous; involucre* obovoid around the achenium, *unarmed,* villous.—6″–12″ high; ultimate leaf-lobes roundish, scarcely 1‴ diam.; ♂ heads 2‴ diam.—Hab. Bahamas!, *Hjalmars.*, Turk Islands; [Key West, on the seashore, Cuba].

Subseries 2. **Heliantheæ.** *Disk-flowers hermaphrodite. Column mostly becoming blackish. Receptacle paleaceous. Achenium crowned, awned, or naked.*—Leaves usually opposite.

26. ZINNIA, *L.*

Head radiate: the ray-flowers ♀, with the ligule leathery, persistent on the fruit. *Involucre* imbricate. *Receptacle* conical, paleaceous. *Disk-flowers* villous at the lobes. *Style-branches* with a conical, hairy appendage. *Achenia* of the disk compressed, usually 1–2-awned, of the ray subtrigonal.—Herbs; leaves *opposite, entire;* heads *solitary, terminal.*

92. **Z. multiflora,** *L.* Annual; stem erect, somewhat hispid, inflated-hollow at the top; leaves oblong-lanceolate, with a rounded, subsessile base; involucre campanulate: scales appressed; ligules obovate, purplish or yellow on the upper side; *paleæ entire, obtuse; achenia* of the disk 1-*awned.—Lam. Ill. t.* 685, *fig. inf.*—Hab. Bahamas!, *Swains.;* Jamaica!, *Al.;* [Carolina to Peru! and Venezuela!].

93. **Z. elegans,** *Jacq.* Annual; stem erect, scabrous, equal or slightly inflated at the top; leaves oblong, or ovate-oblong, sessile, subcordate at the base; involucre hemispherical: scales usually squarrose with a broad, greenish, often black-bordered summit; ligules obovate, purple or crimson on the upper side; *paleæ with a terminal, serrate crest; achenia* of the disk *awnless,* margined, *shortly 2-lobed.—Jacq. Ic. Rar. t.* 589.—Hab. S. Vincent!, *Guild.;* [Guadeloupe!; Mexico! to New Granada!]

27. ECLIPTA, *L.*

Head shortly radiate: the ray-flowers ♀, included. *Involucre* 2-serial, foliaceous. *Receptacle* paleaceous: paleæ-linear. *Corollæ* of the disk 4-toothed. *Style-branches* bluntish, hairy. *Achenia* of the disk compressed, naked, or obsoletely crowned, of the ray subtrigonal.—Annual, scabrous, diffuse herbs: leaves *opposite, serrate or subentire, triplinerved-arch-veined;* heads *axillary and terminal, peduncled, single-ternate, white.*

94. **E. alba,** *Hassk.* Leaves lanceolate or elliptical-lanceolate, subsessile; achenium tubercled, crowned with minute teeth and hairs, or naked, subtruncate.—*Jacq. Amer. Pict. t.* 197.—Verbesina, *L.* E. erecta, prostrata, *and* punctata, *L.* E. longifolia, *Schrad.!*, thermalis, *Bg.!*, peduncularis, *Rémy!*, procumbens *and* brachypoda, *Mich.*—The West Indian form has long-peduncled heads (*i. e.* E. erecta, *L.* or E. punctata, *Jacq.*).—Hab. Jamaica!, all coll., in wet places; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Sieb.*

Tr. 74.; [Pennsylvania! to Uruguay!; Egypt! to Natal; Arabia!, Mesopotamia!, Transcaucasia! and Northern China! to the East Indies! and trop. Australia!].

28. BORRICHIA, *Ad.*

Head radiate: the ray-flowers ♀, short. *Involucre* hemispherical, imbricate: exterior row foliaceous. *Receptacle* paleaceous: paleæ oblong, rigid. *Style-branches* subcylindrical, bluntish, hairy from the summit to near the base. *Achenia* of the disk compressed-4-gonal: crown short, 4-toothed.—Maritime shrubs; leaves *opposite, sessile, leathery;* heads *solitary, peduncled, terminal, yellow.*

95. **B. arborescens,** *DC.* Silvery-sericeous or glabrescent; *leaves* spathulate or lanceolate, mucronulate, *quite entire;* involucre adpressed; *paleæ* spathulate-oblong, *mucronate.*—Buphthalmum, *L.* B. frutescens jamaicense, *L., Sw. Obs.* Borr. argentea, *DC.:* the common West Indian, silvery form, but the glabrous one of DC. is no variety, glabrous and silvery leaves occurring on the same stem. 4′–1′ high; variable in the ligules obovate or oblong, the exterior scales of the involucre ovate or oblong, as long as the inner ones or shorter and somewhat spreading.—HAB. Bahamas!, *Swains.*, Turk Islands!, *Hjalmars.;* Jamaica!, *Macf., Wils., March,* on calcareous rocks and in dry places along the coast; Antigua!, *Wullschl.;* [Bermudas, Key West; Cuba! to Guadeloupe! and Peru].

29. WEDELIA, *Jacq.*

Head radiate (rarely discoid): the ray-flowers ♀. *Involucre* 2-serial, exterior foliaceous, interior scaly. *Receptacle* slightly convex, paleaceous. *Style-branches* hispidulous above, or from the summit nearly to the base. *Achenium* biconvex, or angular: crown unequally lobed or dentate.—Herbs *or* shrubs; leaves *opposite;* heads *peduncled, terminal and axillary, solitary or ternate, yellow.*

Sect. 1. STEMMODON.—*Ligules 3-dentate. Style-branches bluntish, cylindrical, hispidulous to the middle. Achenium muricate, glabrous.*—Creeping, aromatic herbs, with ascending branches.

96. **W. carnosa,** *Rich.* Glabrescent; *leaves sessile,* cuneate-oblong or obovate, coarsely few-serrate, or trilobed; peduncles solitary in the axils, equalling or exceeding the leaves, pubescent; involucral leaves oval-oblong, as long as the disk, scales shorter; ligules shortly exserted, obovate; *achenia of the ray trigonal-ovoid, bluntish at the base, muricate:* crown short, multidentate-repand.—*Sl. t.* 155. *f.* 1.—Silphium trilobatum, *L.* W. crenata, *Rich.*—Spithameous, from a long-creeping, stoloniferous base; leaves triplinerved, variable, 1″–3″ long; disk-flowers much papillose at the lobes; paleæ oblong-lanceolate, acute.—HAB. Bahamas!, *Swains.;* Jamaica!, all coll., in wet places; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Cuba! to French islands!, *Sieb. Mart.* 199; Panama! to Pernambuco!].

97. **W. gracilis,** *Rich.* Stems slender, pilose, 1-few-headed; *leaves subsessile,* cuneate-oval, blunt, inciso-few-serrate or trilobed, ciliate, glabrescent; peduncles much longer than the leaves, pilose, usually from the uppermost axil; involucral leaves obovate, as long as the disk, scales shorter; ligules shortly exserted, oblong or obovate-quadrate; *achenia of the ray obovate, tapering at the base, biconvex with an argute margin,* of the disk subcompressed, fusiform-stipitate, both kinds *muricate-tubercled:* crown produced, with a lobed, membranaceous limb.—Spithameous, ascending from the creeping, filiform roots, the stem more delicate than in the preceding; leaves 10‴–12‴ long and often as broad, triplinerved; peduncles 3″–4″ long; heads 8‴ diam.; paleæ oblong-linear, bluntish or acute; achenia 2‴ long, smaller than in the preceding, those of the disk tapering from the middle into their slender stalk.—HAB. Jamaica!, *Al., Wullschl.*, S. Andrews near Kingston, S. Anns; Manchester.

Sect. 2. CYATHOPHORA, *DC.*—*Ligules 2(-3)-dentate. Style-branches acute, hispidulous from the summit nearly to the base. Achenium puberulous.*—Scabrous shrubs, or suffrutescent herbs; peduncles terminal.

98. **W. caracasana,** *DC.* Shrubby, scabrous with hispidulous appressed down;

leaves petioled, ovate-lanceolate, long-acuminate, remotely serrulate, triplinerved, less strigose beneath than above; *peduncles ternate;* involucral leaves oblong-lanceolate, longer than the disk; *ligules* oblong, shortly 2-dentate, *exserted; achenium compressed-tetragonal, smooth:* crown short, denticulate.- Gymnopsis verbesinoides, *DC.!*, *ex specim. Lockh.*—Leaves 4″-3″, petiole 5‴-3‴ long; heads 8‴ diam.—Hab. Trinidad!, *Lockh.*, *Cr.;* [Veraguas, Panama!, Venezuela].

99. **W. buphthalmoides,** *Gr.* Shrubby, scabrous with strigose down; *leaves petioled*, ovate-lanceolate or lanceolate, acuminate, serrate or subentire: petiole hispid-ciliate; *peduncles solitary*, as long as the uppermost leaves; involucral leaves longer than the disk; *ligules* oblong, *long-exserted; achenia of the disk* oblong-linear, *biconvex, with an argute margin*, which is broader at the base, *smooth*, of the ray somewhat broader, obovate-oblong, margined: crown short, lobed.—Anomostephium, *DC.*—Probably a common and variable species, but the achenia in β and γ are still unknown: in one instance I see triplinerved and arch-veined leaves on the same branch. Leaves 5″-4″ (-2″) long; heads 1½″-10‴ diam.

α. Leaves 1-nerved, arch-veined, serrulate or subentire; involucral leaves ovate-roundish, blunt.

β. *antiguensis*, Nichols. (sec. Wullschl.). Leaves broader, serrate, triplinerved and veiny; involucral leaves elliptical, pointed.

γ. *dominicensis.* Leaves of α, but triplinerved; involucral leaves elliptical-oblong, pointed.

Hab. Bahamas!, *Swains.;* Antigua!, *Finl.*, *Wullschl.* (β), Dominica!, *Imr.* (γ), S. Vincent!, *Guild.* (α, γ); [Guadeloupe!, in arid places, α, γ].

Of the other West Indian *Wedeliæ*, which probably all belong to *Cyathophora*, *W. frutescens*, Jacq., has sessile or subsessile leaves, and will perhaps include *W. calycina*, Rich., *acapulcensis*, Kth., and *W. affinis* and *lanceolata*, DC.; *W. reticulata*, DC., has uninerved leaves and a thickish vein-net beneath them; *W. ambigua*, DC., broad, triplinerved, long-petioled leaves: the disk in this and in *W. reticulata* exceeds the involucre; in *W. Sieberi* (*W. frutescens*, Sieb. Mart. 201), from an imperfect specimen, the rays are included, and the triplinerved leaves villous beneath.

30. MELANTHERA, *Rich.*

Head discoid, homogamous. *Involucre* 2-serial. *Receptacle* convex, paleaceous. *Style-branches* hispidulous above, acute. *Achenium* compressed-angular, crowned with several awns.—Scabrous perennial herbs; stem *tetragonal;* leaves *opposite, serrate, petioled, triplinerved;* heads *peduncled, single or ternate, white:* prominent column *black, with terminal, white appendages.*

100. **M. deltoidea,** *Rich.* Leaves deltoid or slightly hastate; exterior involucral scales ovate (or ovate-oblong), blunt; *paleæ mucronate-acute.—Jacq. Ic. Rar. t.* 583.—Bidens nivea, *Sw.* Calea aspera, *Jacq.* M. Linnæi, *Kth.*, *Sieb. Mart.* 202.—2′-5′ high; heads 5‴-6‴ diam.—Hab. Bahamas!, *Swains.;* Jamaica!, *Macf.*, *M'Nab, Wils.*, *Wullschl.*, a common weed; Dominica!, *Imr.;* Trinidad!, *Sch.*, *Cr.;* [Cuba! and Mexico! to Venezuela! and Ecuador!].

31. WULFFIA, *Neck.*

Head radiate or discoid: the ray-flowers sterile. *Involucre* imbricate. *Receptacle* convex, paleaceous. *Style-branches* hispidulous above. *Achenium* somewhat fleshy, compressed-tetragonal, naked.—Scabrous shrubs, *often scandent;* leaves *opposite, serrate, petioled:* inferior vein-pairs *more approximate to the leaf-base;* heads *peduncled, axillary and terminal, ternate or solitary, yellow.*

101. **W. stenoglossa,** *DC.* Branches subtetragonal; leaves ovate-lanceolate or ovate, acuminate, shortly cuneate at the base, minutely hispidulous; *involucre appressed: exterior scales ovate-lanceolate, bluntish, about half as long as the ray;* paleæ mucronate at the incurved top, oblong.—W. capitata, *Schultz Bip.!* Tilesia capitata, *Mey. Ess.!*—Leaves 6″-4″ long; heads 1″ diam.: exterior scales of the involucre 4‴ long.—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sch.;* [Guiana! to Peru!].

102. **W. havanensis,** *DC.* Branches sub-6-gonal; leaves ovate-oblong or ovate-

acuminate, bluntish at the base, minutely hispidulous; *involucre loose*, subrecurved: *exterior scales foliaceous, oblong-lanceolate, pointed, somewhat exceeding the ray*; paleæ incurved-mucronate, obovate-oblong.—The determination of this species rests only on DC.'s incomplete diagnosis.—Exterior scales of the involucre 6‴ long; ligules 8–10, oblong, 2-dentate little longer than the disk.—HAB. Dominica!, *Imr.*; [Cuba].

32. BIDENS, *L.*

Head radiate or discoid: the ray-flowers sterile. *Involucre* 2-serial. *Receptacle* flattish, paleaceous: paleæ deciduous with the achenium. *Style-branches* hispidulous above, acute. *Achenium* compressed or tetragonal, 2–4(–6)-awned: awns persistent, retrorsely hispid.—Leaves *opposite, serrate or divided*; heads *corymbose or single, yellow or white.*

Sect. PSILOCARPÆA, *DC.*—*Achenium tetragonal, linear, tapering above.*

103. **B. leucanthus,** *W.* Annual, glabrous or nearly so; *stem erect, tetragonal*; leaves pinnatisect, 1–3-jugal (rarely simple): segments ovate-lanceolate or ovate, acuminate; heads corymbose: *ray white or none*; *exterior involucral scales appressed, lanceolate*, ciliate or puberulous; achenia glabrous or hispidulous above: awns 2–4, diverging in the exterior, erect in the central larger ones.—*Desc. Fl.* 8. *t.* 583.—Coreopsis, *L.* B. pilosus, *L.*: the discoid form. B. brachycarpus *and* anthriscoides, *DC.* Coreopsis coronata, *L.* (*ex Plum. Ed. Burm. t.* 53. *f.* 2), *and* C. alba, *L.* (*ex Herm. Parad. t.* 124).—A remarkable form, with all leaves simple, hispidulous achenia, and whitish-pubescent involucres, was collected by Dr. Alexander, but transitions into the common *B. leucanthus* occur among Mr. March's specimens.—HAB. Jamaica!, all coll., a common weed; Antigua!, *Wullschl.*; Trinidad!, *Sch.*, *Cr.*; [Florida; Cuba! and Mexico! to Brazil! and Chili!; Pacific islands! to trop. Australia!, New Zealand!, and East Indies!; Madeira!, trop. Africa! to the Cape!].

104. **B. Coreopsidis,** *DC.* *Stem* herbaceous, scandent, *cylindrical*; leaves pinnatisect, 1(–2)-jugal, superior often, all rarely simple: segments ovate-lanceolate or oblong-lanceolate, acuminate; heads corymbose: *ray yellow*; *exterior involucral scales squarrose-spreading, linear*; achenium hispidulous on two margins, or glabrescent: awns 2 (–4), diverging.—*Sm. Spicil. t.* 22; *Bot. Reg. t.* 7.—Coreopsis reptans, *L.* C. incisa, *Ker.* C. chrysantha, *L.* (*Plum. Ed. Burm. t.* 53. *f.* 1), is perhaps a form with smaller ligules. B. tereticaulis, *DC.*: the common, glabrous form. B. squarrosus, *Kth.*: a hairy variety, with the leaves densely pubescent beneath. B. speciosus, *Gardn.*!—Ligules large, usually entire at the top.—HAB. Jamaica!, all coll., in waste places; Antigua!, *Nichols.*, *Wullschl.*, S. Vincent!, *Guild.*; [Texas! and Cuba! to Brazil!].

105. **B. bipinnatus,** *L.* Annual, glabrous; *stem erect, tetragonal*; *leaves 2–3-pinnatisect* (rarely simply pinnatisect): segments small, cuneate-oblong or lanceolate; heads long-peduncled: *ray-flowers* few, *yellow, subincluded*; exterior involucral scales spreading, linear; achenium long, glabrous or hispidulous above: awns 4–2, suberect or little diverging.—B. cynapiifolius, *Kth.* B. portoricensis, *Spreng.* B. parviflorus, *W.*: ex specim. Turczan.—HAB. Jamaica (*Lun.*); Antigua!, *Wullschl.*, a weed; [Connecticut and California! to Buenos Ayres!; Southern Siberia!; Southern Tirolia! to trop. Africa!].

33. COSMOS, *Cav.*

Character of *Bidens*, but awns of the beaked achenium deciduous or abortive.—Leaves *2-pinnatisect*; heads *radiate, long-peduncled.*

106. **C. caudatus,** *Kth.* Glabrous or nearly so; leaf-segments lanceolate, scabrous on the margin; *exterior involucral scales nearly as long as the inner series*; *ray rosy*; achenium tapering from the middle into an upwardly scabrous beak: awns 2, horizontal.—4′–7′ high; achenium (the beak included) 10‴–12‴ long.—HAB. Jamaica!, *Bancr.*, *Wils.*; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Key West, Cuba! and Mexico! to Ecuador!].

107. **C. sulfureus,** *Cav.*, var. **leiorhynchus,** *Gr.* Glabrous or nearly so: leaf-segments lanceolate, scabrous on the margin; *exterior involucral scales linear, exceeded by the inner lanceolate ones*; *ray yellow*; achenium longer than its beak: awns abortive (in a

1–3, minute).—Our form has short, glabrous achenium-beaks, truncate at the summit: in *α* the beak is hispid and half as long as the achenium. Achenia 6‴–8‴ long.—Hab. Trinidad!, *Cr.*; [Venezuela!; *α* from Cuba and Mexico! to Brazil!].

34. VERBESINA, *L.*

Head radiate, rarely discoid: the ray-flowers ♀. *Involucre* 2–several-serial. *Receptacle* convex or flat, paleaceous. *Style-branches* puberulous above, with a conical appendage. *Achenium* vertically flat-compressed, 2-awned, often winged on the margin.—Herbs *or* shrubs; tertiary leaf-veins *often pellucid.*

Sect. 1. Verbesinaria, *DC.*—*Awns of the achenium straight, subequal.*

108. **V. gigantea,** *Jacq.* Shrubby; branches naked, striate-cylindrical, glabrous, pubescent at the summit; *leaves alternate, pinnatipartite* (or the uppermost subentire), glabrescent above, pubescent beneath: segments oblong, acuminate, few-dentate or entire: *petiole winged, not decurrent;* heads campanulate, in compound corymbs: *ray* few-flowered, *white* (or none); involucre 2–3-serial: scales lanceolate, pubescent, exterior shorter; paleæ convolute, oblong, mucronulate-bluntish, ciliate above; achenium obcordate, broadly winged, with the wing pale, ciliate: awns erect, equal.—*Jacq. Ic. Rar. t.* 175.—V. pinnatifida, *Sw.* (*non Cav.*).—10′–12′ high; inferior leaves 10″–16″ long; head 4‴ long, 20–12-flowered.—Hab. Jamaica!, all coll., in the mountains; Dominica!, *Imr.*; [Guadeloupe!; Panama!].

Sect. 2. Hamulium, *Cass.*—*Awns of the achenium unequal, the longer uncinate at the top.*

109. **V. alata,** *L.* Herbaceous, stoloniferous at the base, hispidulous or glabrescent; *stem winged* by decurrent leaves; *leaves alternate, obovate or spathulate-lanceolate,* unequally dentate or dentate-repand, contracted at the base; heads subsolitary, long-peduncled: *ray orange,* subincluded; involucre 2-serial: scales lanceolate, exterior longer; paleæ convolute, linear, acuminate; achenium obovate, broadly winged, with the wing pale, ciliate; uncinate awn twice as long as the straight one.—Stem 1′–2′ high; leaves 4″–2″ long; head 4‴ diam.—Hab. Jamaica!, all coll., a weed; [Cuba!, Guadeloupe!; Mexico to Guiana].

35. CHÆNOCEPHALUS, *Gr.* (*nov. gen.*).

Head discoid, homogamous: flowers spreading from each other. *Involucre* 1-serial. *Receptacle* minute, paleaceous. *Corolla* curved above the base, 5-dentate. *Anthers* jointed with the filaments: connective thickened towards the joint and callous below the cells. *Style* with a basilar tumour: branches hispidulous above, with a bluntish point. *Achenium* vertically compressed, with keeled facets, 2-awned, narrowly winged.—High shrubs; leaves *alternate;* heads *corymbose, in a terminal, fastigiate panicle: its inferior peduncles axillary.*

Salmea curviflora, R. Br., if a congener, would be distinguished from our species by "one of the fruit-awns transformed into a wing." The true *Salmeæ,* though nearly related, have an imbricate involucre, straight corollæ, the anthers more distinctly tailed, the connective not callous at the base, and opposite leaves.

110. **C. petrobioides,** *Gr.* 20′ high; branches cylindrical, striate, slightly puberulous; leaves early glabrous, spathulate-oblong, mucronate or bluntish, tapering into a short petiole or subsessile, dentate-serrate or remotely serrulate-repand, smooth above, with prominent, costate veins beneath, 8″–3″ long, 3″–1″ broad, uppermost decrescent; panicle hispidulous, 6″ diam.; heads 6‴ diam., 12–16-flowered; involucre recurved, shorter than the exterior paleæ: leaves linear, blunt; paleæ convolute around the flower, oblong, blunt, striate, glabrescent, 3‴ long; corolla-tube cylindrical, dilated at the base: inflexed limb 5-fid to $\frac{1}{3}$, with oblong-linear lobes; anthers minutely sagittate: cells filiform, narrower at the base than the callous connective; style-tumour ovoid, glabrous: branches revolute, exserted; achenium cuneate-obovate, hairy or glabresent, black, $2\frac{1}{4}$‴ long: awns straight, proceeding from the angles, slightly unequal, 1‴–$1\frac{1}{2}$‴ long, decurrent into the very narrow, pale wing, which lines the margin of the achenium.—Hab. Jamaica!, *Pd., Wullschl.,* Manchester, on Martin's hill, Huntly.

36. SALMEA, *DC.*

Head discoid, homogamous. *Involucre* imbricate-2-serial. *Receptacle* conical, paleaceous. *Anthers* bimucronate at the base. *Style* with a basilar tumour: branches puberulous, with a blunt point. *Achenium* vertically compressed, 2-awned.—Trailing shrubs; leaves *opposite; heads corymbose, white.*

Sect. 1. EUSALMEA.—*Style-tumour hemispherical: branches devoid of a terminal appendage, blunt. Awns of the achenium wingless.*—Heads pedicellate, single in the corymbs.

111. **S. grandiceps,** *Cass. Glabrous* or glabrescent at the top; *leaves petioled,* ovate or ovate-lanceolate, acuminate, denticulate-repand or subentire; pedicels 3–5-nate: *heads rhomboid-conical;* involucre 2–3-serial: scales ovate or ovate-oblong, interior longer, exceeded by the flowers; paleæ oblong-linear, blunt; achenium ciliate, obversely lanceolate, twice as long as the subequal awns.—Calea Acmellus, *L.* Bidens scandens, *Sw.* (*non L.*). S. scandens, *DC.* (*exclus. syn. Linn.*). S. Eupatoria, *β*, *DC.*—Leaves 4″–2″, heads 4‴–6‴, flowers 2‴ long, odorous; achenium 1½‴ long.—*S. scandens,* R. Br. (*Bidens,* L. *S. parviceps,* Cass. Bot. Mag. t. 2062), is a continental species (Mexico!, Panama!, Brazil!), distinguished by smaller (2‴ diam.), hemispherical heads and shorter flowers.—HAB. Jamaica!, *Macf., Al., Pd., Wils., March,* in the mountains; [Cuba!, Haiti!, Portorico!].

112. **S. oppositiceps,** *Cass. Glabrous,* puberulous at the top; *leaves petioled,* ovate or ovate-lanceolate, acuminate, denticulate-repand; pedicels 3–5-nate: *heads oblong,* bluntish at the base; involucre 2–3-serial: scales ovate, interior oblong, longer, exceeded by the flowers; paleæ oblong-linear, bluntish; awns of the ovary subequal.—Habit of the preceding, but heads 2‴ long, scarcely 1‴ thick, flowers 1½‴ long, less numerous than in *S. scandens,* which has broader involucral scales.—HAB. Trinidad!, *Cr.*

113. **S. sessilifolia,** *Gr. Rusty-villous; leaves subsessile,* ovate, acuminate, denticulate-repand; corymbs loose: *heads hemispherical;* involucre 3-serial: scales ovate-roundish; paleæ oblong-linear, excurrent at the summit into a broader, roundish appendage; awns of the ovary unequal, or one of them abortive.—S. Eupatoria, *α*, *DC.?*—A trailing shrub: leaves 4″–2″ long, broadly rounded at the base: down more scattered than on the branches and corymbs; heads 2‴ diam.—HAB. Jamaica!, *Pd.,* Westmoreland.

Sect. 2. HOPKIRKIA.—*Style-tumours ovoid: branches with a bluntish, conical appendage. Awns of the achenium unequal, winged.*—Heads glomerate in the corymbs.

114. **S. hirsuta,** *DC. Branches striate, villous-pubescent; leaves petioled,* ovate-lanceolate or oblong-lanceolate, acuminate, with a narrow point, denticulate-repand or subentire, scabrous-hispidulous above, villous-tomentose beneath; corymbs trichotomous: *heads ternately subsessile, oblong;* involucre 2–3-serial: scales ovate-oblong or oblong-lanceolate, interior half as long as the flowers and exterior paleæ; paleæ oblong, acuminate; achenium cuneate-linear: *longer awn externally winged,* with the wing shortly decurrent, shorter margined.—Bidens, *Sw.!*—Leaves 5″–3″ long; heads 10–15-flowered, 3‴–4‴ long.—HAB. Jamaica!, *Sw., Macf., Al., Pd., Wullschl.,* in the mountains, S. Anns, Manchester.

Sect. 3. STERRHANTHEMUM.—*Style-tumour hemispherical: branches revolute, with a terminal, subglobose appendage. Awns of the achenium wingless, equal.*—Heads shortly pedicellate, in densely fastigiate corymbs.

115. **S. petrobioides,** *Gr.* (*n. sp.*). *Glabrous; leaves* somewhat fleshy, *petioled,* obovate or oval, mucronulate, quite entire; corymbs terminal, short, trichotomous: *heads obconical-oblong, truncate;* involucre 2-serial: inner scales oblong-linear, half as long as the exterior paleæ, exterior loose, minute, ovate, pointed; paleæ oblong, pointed; achenium obovate-cuneate, glabrous, ciliate at the top, twice as long as the awns.—A tortuous, branched shrub, resembling *Petrobium;* leaves 12‴–8‴, petiole 2‴ long; corymbs 1″–1½″ diam.: heads densely aggregate, 2‴ long, 8–12-flowered.—HAB. Bahamas!, *Swains.*

37. SPILANTHES, *Jacq.*

Head discoid or shortly radiate: the ray-flowers ♀. *Involucre* 1–2-serial. *Receptacle*

cylindrical or conical, paleaceous. *Style-branches* truncate, penicillate at the top. *Achenia* of the disk compressed, often with a ciliate margin, of the ray compressed-angular, all naked or crowned with 2 (1–3) awns or bristles.—Herbs; leaves *opposite;* heads *long-peduncled.*

116. **S. uliginosa,** *Sw.* Annual, diffuse, glabrescent; leaves ovate-lanceolate, lanceolate or ovate, crenulate-repand, triplinerved, contracted or tapering at the petioled base; *heads* ovoid, at length conical, *radiate;* receptacle cylindrical; involucral scales 5 (–6); ray-flowers subincluded; *achenium naked, or with 2 minute bristles,* ciliate.—S. tenella *and* debilis, *Kth.* S. Salzmanni, *DC.*—Ray white: achenium black, with a white margin, $\frac{1}{2}'''$ long.—Hab. Jamaica!, all coll., common in moist places; Antigua!, *Wullschl.;* Trinidad!, *Sch.*, *Cr.;* [French islands!; Mexico! to Peru! and Brazil!].

117. **S. exasperata,** *Jacq.* Annual, virgate, scabrous-puberulous or glabrescent; leaves ovate or lanceolate, crenulate or repand, triplinerved, contracted or tapering at the petioled base; *heads* conical, *discoid* (rarely radiate); receptacle cylindrical; involucral scales 5; *achenium shortly 2-awned,* ciliate.—*Jacq. Ic. Rar. t.* 584.—Scarcely to be distinguished from the preceding, but the achenia 1''' long, and with longer awns.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Panama! to Guiana!].

118. **S. urens,** *Jacq.* Perennial, glabrescent; branches ascending from a radicant base; *leaves* lanceolate (or linear), *quite entire,* tapering towards the *subsessile* base; *heads* solitary, subglobose, at length bluntly conical, *discoid;* receptacle conical-cylindrical; involucral scales 2-serial, 6–7; achenium 2-awned, ciliate: awns unequal, the longer hispidulous.—*Jacq. Amer. Pict. t.* 194.—Heads white, larger than in the preceding, 4''' diam.—Hab. S. Vincent!, *Guild.*, on the seashore; [Haiti!; New Granada, Peru!, Brazil!].

S. oleracea, Jacq. (Desc. Fl. 1. t. 52), a discoid species, with ovate, petioled leaves, and 12–20 involucral scales, is only cultivated in Jamaica!, *Bancr.*

38. ISOCARPHA, *R. Br.*

(Dunantia, *DC.*)

Head discoid. *Involucre* replaced by the exterior paleæ or incomplete. *Receptacle* cylindrical or conical, paleaceous. *Anthers* yellow. *Style-branches* with a hispidulous, filiform, or bluntish appendage. *Achenium* tetragonal, naked. Suffrutescent herbs; leaves *opposite, or the superior alternate;* heads *glomerate or single, peduncled, whitish.*

The difference of setaceous or bluntish appendages of the style is apparently of no great value, though from the habit two sections may be distinguished, one resembling *Spilanthes* (and including *I. divaricata,* Benth.), the other identical with *Dunantia:* to the latter I refer a Mexican plant, agreeing with *I. echioides,* Less.

Sect. 1. Dunantia, *DC.*—*Heads turbinate at the base. Paleæ rigid,* 2–3*-nerved.*—Leaves opposite.

119. **I. oppositifolia,** *R. Br.* Virgate, pubescent; leaves sessile, lanceolate, bluntish, triplinerved, subentire; *heads ternately subsessile;* peduncles long, 3-fid or simple; receptacle shortly conical-cylindrical; paleæ mucronate, exterior often fertile; *appendages of the style-branches setaceous;* achenium glabrous.—Calea, *L.*, *Sw.*—2' high; heads 3'''–4''' long; palea-nerves thickish, contiguous along the middle line.—Hab. Bahamas!, *Swains.;* Jamaica!, *Macf.*, *Pd.*, *Wils.*, on the seacoast (*Pd.*), in the hills (*Sw.*); Trinidad!, *Lockh.*, on gravelly banks.

120. **I. angustata,** *Gr.* (*n. sp.*). Branched, pubescent, with scattered hairs; leaves oblong-lanceolate, bluntish, quite entire, triplinerved above the long, contracted base, which often tapers into a short petiole; *heads single* (–geminate): peduncle about as long as the uppermost leaves; receptacle shortly conical-cylindrical; paleæ 2–3-nerved, mucronate, exterior sterile, green; *appendages of the style-branches thickish-filiform, pointed;* achenium glabrous.—Spithameous; leaves (the petiolar base included) 1'' long, 3'''–4''' broad, contracted from the middle or below it, less pubescent than in the preceding; head 3''' long: paleæ-nerves as in the preceding.—Hab. Jamaica!, *Al.*, near the cascade of Fall's river.

Sect. 2. SPILANTHODIA.—*Heads ovoid, at length conical. Paleæ membranaceous.*—Leaves all, or superior alternate.

121. **I. atriplicifolia,** *R. Br.* Stem erect, branched, scabrous-puberulous, and glabrescent; leaves ovate or lanceolate, serrate, arch-veined, glabrous, contracted into the petiole, which is auricled at the base: usually *most alternate; heads single,* numerous; receptacle conical-cylindrical; paleæ 1-nerved, exterior sterile; appendages of the style-branches setaceous; *achenium pubescent.*—Spilanthes, *L.* I. Billbergiana, *Less.*, is perhaps an opposite-leaved form, with the uppermost leaves alternate: such a form occurs in Trinidad, together with the alternate-leaved one.—1′–3′ high; heads 4‴ long, somewhat pointed.—HAB. Trinidad!, *Lockh.*, *Cr.*, in moist savannahs; [Cuba!; New Granada].

39. SYNEDRELLA, *G.*

Head radiate: the ray-flowers ♀: disk 5–12-flowered. *Involucre* few-leaved, foliaceous. *Receptacle* minute, paleaceous. *Style-branches* with a hispidulous setaceous appendage. *Achenia* of the ray compressed, winged, with the wing cut into flattish spines, of the disk linear, flat-convex, sub-3-angular, tubercled, 2(–3)-awned.—A diffuse, annual herb; leaves *opposite;* heads *subsessile, glomerate-geminate in the axils, yellow.*

122. **S. nodiflora,** *G.*—*Sl. t.* 154. *f.* 4.—Verbesina, *L.*—Stem pubescent or glabrate; leaves ovate, triplinerved, pointed, cuneate at the petioled base, serrulate or subentire; heads 4‴ long.—HAB. Jamaica!, all coll., a common weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sch.;* [Cuba! and Mexico! to Guiana! and Peru!].

40. CHRYSANTHELLUM, *Rich.*

Head radiate: ray-flowers ♀. *Involucre* 2–1-serial. *Receptacle* flat, paleaceous. *Style-branches* shortly conical, hispidulous. *Achenia* of the ray cylindrical, callous, 3-furrowed on each side, of the disk compressed, narrowly winged, with the wing dentate-ciliate, or all compressed, naked.—Diffuse, annual, glabrous herbs; leaves *alternate, lowest rosulate;* heads *peduncled, yellow.*

123. **C. procumbens,** *Rich.* Leaves cuneate, serrate, or cut, inferior petioled; ray-flowers 10–12, disk few-flowered; achenia of the ray cylindrical, of the disk compressed.—*Sl. t.* 155. *f.* 3. *Sw. Obs. t.* 8. *f.* 1.—C. Swartzii, *Less.* Verbesina mutica, *L.*, *Sw.* Anthemis americana, *L.*—Procumbent; heads small.—HAB. Jamaica!, *Bancr.*, *Macf.*, *Dist.*, *M'Nab*, *Wullschl.*, in pastures, uncommon; [Cuba! to Brazil!].

Subseries 3. **Tagetineæ.**—*Disk-flowers hermaphrodite. Receptacle naked, flat.*—Leaves dotted with large, pellucid glands.

41. PECTIS, *L.*

Head radiate: ray-flowers ♀. *Involucre* 1-serial. *Corollæ* of the disk often unequally 5-dentate. *Style* hispidulous above and along its short branches. *Achenium* filiform, striate, tapering at the base. pappus of scales, which usually are produced into awns, or of awns, or of scabrous bristles.—Herbs, usually annual; leaves *opposite,* 1-*nerved, often fringed with bristles towards the base;* heads *slender, yellow.*

Sect. 1. PECTIDIUM, *Less.*—*Pappus of a few, spreading, glabrous awns.*

124. **P. punctata,** *Jacq.* Annual, glabrous, slender, dichotomously branched above; *leaves linear,* acuminate at both ends, dotted beneath, smooth on the margin: bristles few at their base, short, or none; *heads long-pedicellate;* involucral scales 5 (–4), linear, blunt, dotted with linear, black glands; ray 5-, disk few-flowered; achenium hispidulous above; *awns* 2–4, *subuliform.*—*Jacq. Amer. Pict. t.* 196. *Sl. t.* 149. *f.* 3. *Lam. Ill. t.* 684.—P. linifolia, *L.* (*ex ic. Sl. and Lam.: non Less.*). Pectidium punctatum, *Less.*—1′–3′ high; leaves 1‴–2‴ broad.—HAB. Jamaica!, all coll., along the sandy seacoast; [Cuba! to French islands; Venezuela!; Galapagos!].

Sect. 2. EUPECTIS.—*Pappus 1-serial, of distinct scales, usually produced into scabrous awns.*

* *Heads pedicellate, single.*

125. **P. Swartziana,** *Less.* Annual, glabrous, slender, trichotomously branched above; *leaves oblong-linear,* mucronulate, dotted beneath, scabrous on the margin: bristles few at their base (or none); *heads pedicellate:* involucral scales 8–5, oblong-linear, blunt, convolute; ray 8–5-, disk 5-flowered; achenia hispidulous: *scales minute,* most of them devoid of awns.—*Plum. Ed. Burm. t.* 86. *f.* 1: *rough.*—P. ciliaris, *Sw.* (*non L.*).—1′–2′ high; leaves 2‴ broad.—HAB. Jamaica!, *Macf.*, in dry soil; [Haiti; Panama!].

126. **P. linifolia,** *Less.* (*exclus. syn.*). Annual, slender, branched at the base: internodes puberulous, hairs in 2–4 rows; *leaves linear,* mucronulate, dotted beneath, scabrous on the margin and midrib beneath, with long bristles below the middle; *pedicels about as long as the heads;* involucral scales 5 (–6), oblong-linear, bluntish, convolute; ray 5-, disk 10–5 (–few)-flowered; achenia pubescent, of the ray 2-, of the disk 4–5-awned: awns subequal, dilated at the base into a lanceolate scale.—Spithameous –1½′ high; leaves 1‴–½‴ broad.—HAB. Jamaica!, *Macf.;* [Key West to S. Thomas].

** *Heads subsessile, or longer than their pedicel.*

127. **P. ciliaris,** *L.* (*non Less.*). Annual, branched from the base; stems slender, often compressed, puberulous, hairs in 2 rows; *leaves obversely lanceolate-linear,* rounded-acute, usually tapering below the middle, dotted beneath, scabrous on the margin, with long bristles below the middle; *heads* single-ternate, *subsessile,* or longer than their pedicel; involucral scales 5, oblong, mucronulate, keeled below; ray 5-, disk 5–8-flowered; achenia hispidulous, of the ray 2(–3)-, of the disk 5–4-awned: *awns subequal, lanceolate below the middle.*—P. anceps, *Less.* P. costata, *Ser.* Though Plumier's rough figure, quoted by Linnæus, is to be excluded, from his description and the Jamaica origin, this is evidently his *P. ciliaris.*—Spithameous–1′ high; leaves 1″ long, or shorter, 2‴–1‴ broad.—HAB. Jamaica!, *Macf.*, *M'Nab*, *Pd.*, S. Andrews, in the Liguana plains; [Cuba].

128. **P. prostrata,** *Cav.* Annual, procumbent, branched from the base: internodes puberulous, hairs in 2 rows; *leaves obversely lanceolate,* mucronulate or blunt, tapering towards the base, dotted with scattered glands, scabrous on the margin, with long bristles near the base; *heads* single, *subsessile,* or much longer than their short pedicel; involucral scales 5, oblong, thickened on the back; ray 5–, disk 5–6-flowered; achenia hispidulous, of the disk with 5–4, of the ray with 2, unilateral scales: *scales lanceolate, shortly awned:* the awns shorter than the scale, subequal.—*Cav. Ic. t.* 324. *Plum. Ed. Burm. t.* 99. *f.* 2: *rough.* 3″–8″ long; leaves 10‴–6‴ (–15‴) long, 2‴–1‴ broad.—HAB. Antigua!, *Wullschl.;* [Cuba!; Texas!, New Mexico!, Yucatan!, New Granada!, Brazil!].

129. **P. humifusa,** *Sw.* Annual, suffrutescent at the base, procumbent, branched from the base; *leaves spathulate, rounded at the top,* mucronulate, or usually quite blunt, dotted with scattered glands, scabrous on the margin, with long bristles near the base; *heads* single, *much longer than their short pedicel,* or subsessile; involucral scales 5, oval-oblong, blunt, keeled below; ray 5-, disk 10(–20)-flowered; achenia hairy in rows, of the ray 5–3-, of the disk 14–6-awned: *awns subequal, linear at the base.*—P. prostrata, *Sieb.* P. Sieberi, *Less.* P. serpyllifolia, *Less.:* a small-leaved form.—3″–6″ long; leaves 6″–3″ long, 2‴–1‴ broad.—HAB. St. Kitts (*Sw.*), Antigua!, *Wullschl.*, Dominica!, *Imr.*, in savannahs, S. Vincent!, *Guild.;* [Portorico! to French islands!].

130. **P. Plumieri,** *Gr.* (*n. sp.*). Suffrutescent at the base; stems ascending, stout, obtusely 4-gonal, glabrous, shortly-branched above; *leaves linear, acuminate,* dotted beneath, scabrous on the margin, with long bristles near the base; *heads* narrow, single–geminate, *much longer than their short pedicel;* involucral scales 5, linear, acuminate, convolute; ray 5-, disk 5–few-flowered; achenia glabrescent, of the ray 3–4-, of the disk 8-awned: *awns subequal, setaceous at the slighly dilated base.*—*Plum. Ed. Burm. t.* 151. *f.* 2: *rough.*—Root apparently perennial; stems several, spithameous–1′ high; leaves 14‴–9‴ long, 1‴ broad, channelled; heads 4‴ long; awns scabrous, long, in the ray often one shorter.—HAB. Jamaica!, *M'Nab*, S. Marys.

42. POROPHYLLUM, *Vaill.*

Head discoid. *Involucre* 1-serial: scales valvate, at first connected, at length distinct. *Style-branches* with hispidulous appendages. *Achenium* elongated, tapering above: pappus pilose, of many soft hairs.—Glabrous herbs; leaves *usually alternate, glaucous;* heads *long-peduncled, purple.*

131. **P. ruderale,** *Cass.* Annual, erect; leaves petioled, oblong-lanceolate or oblong, pointed or blunt, crenate or entire; peduncles subequal; heads cylindrical; involucral scales 5, oblong-linear, callous at the point; corolla-limb equal; achenium linear, compressed, hispidulous.—*Jacq. Amer. Pict. t.* 195.—Kleinia, *Sw.* Cacalia Porophyllum, *L.* P. ellipticum, *Cass.:* the blunt-leaved form, which is less common in the West Indies: the leaves in both are dotted with large, scattered glands.—HAB. Jamaica!, *Al., Wils.*, a weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Cuba! and Mexico! to Buenos Ayres! and Peru!; Galapagos!].

Subseries 4. **Heleniee.**—*Disk-flowers hermaphrodite. Pappus of distinct scales.*—Leaves usually alternate, but opposite in the West Indian genera.

43. CALEA, *L., R. Br.*

Head discoid or radiate: ray-flowers ♀. *Involucre* imbricate. *Receptacle* conical, paleaceous. *Style-branches* subtruncate, or with a minute conical appendage. *Achenium* slightly angular; pappus of 20–10 (–5), linear-setaceous, uninerved, pinnatifid-striate, serrulate scales.—Shrubs; leaves *opposite, scabrous-pubescent, triplinerved, glandular beneath;* heads *in terminal or axillary corymbs, purplish or yellow;* corolla-lobes *veinless between the marginal nerves.*

132. **C. jamaicensis,** *L.* *Leaves* ovate or ovate-lanceolate, pointed, serrate or subentire, densely scabrous-pubescent, *rounded at the shortly-petioled base;* heads discoid, in umbelliform corymbs, single or glomerate; involucral scales ovate and ovate-oblong, blunt; paleæ bluntish; *achenium glabrous,* papillose above, as long as the pappus.—*Sl. t.* 151. *f.* 3. —C. cordifolia, *Sw.!:* agreeing with Linnæus's species (compared by Dr. Alexander in the British Museum), except by having broader, serrate leaves, and a richer inflorescence: such differences however occur on the same branch.—Leaves 2″–1″ long; heads 3‴–4‴ long, 15–20-flowered.—HAB. Jamaica!, *Sw., Macf., Al., Wullschl.*, in mountain-thickets.

133. **C. solidaginea,** *Kth.* *Leaves* ovate-lanceolate, acuminate, subserrate or entire, scabrous above, puberulous or glabrescent beneath, *cuneate at the base, petioled;* heads discoid, in umbelliform corymbs; involucral scales ovate-oblong and oblong-lanceolate, interior and paleæ blunt at the acuminate top; *achenium pubescent,* shorter than the pappus. —*Kth. N. Gen. t.* 407.—A "sweet-smelling" shrub; leaves 3″–2″ long; heads 4‴ long. —HAB. Trinidad!, *Lockh.*, in dry soil; [Venezuela].

44. GALINSOGA, *R. P.*

Head radiate (or discoid): ray-flowers ♀, its ligules small, roundish. *Involucre* 1-serial. *Receptacle* conical, paleaceous. *Style-branches* short, with a conical point. *Achenium* angular: pappus of 8–16, lanceolate, acuminate, striate, fringed scales.—Annual, diffuse herbs; leaves *opposite, triplinerved;* heads *peduncled.*

134. **G. parviflora,** *Cav.* Glabrescent or with scattered, hispidulous down; leaves ovate or ovate-lanceolate, pointed, serrate or subentire; paleæ 3(–2)-fid.—Ray whitish.—HAB. Jamaica!, *M'Nab, March, Wils.*, a weed, Port Royal mountains, at 4000′ alt.; [Mexico to Chili; naturalized in the United States and northern Europe].

Subseries 5. **Anthemideæ.**—*Disk-flowers mostly hermaphrodite. Achenium naked or crowned.*—Leaves alternate.

45. EGLETES, *Less.*

Head radiate: ray-flowers ♀. *Involucre* imbricate. *Receptacle* convex, naked. *Corollæ*

of the disk terete, 3–5-dentate. *Style-branches* with a short conical appendage. *Achenium* obconical: crown callous, subentire or denticulate.—Procumbent leafy herbs; heads *peduncled, lateral:* ray *white.*

135. **E. domingensis,** *Cass.* Perennial, arachnoid-pubescent or glabrescent; leaves subsessile, cuneate-obovate, dentate above the middle; ligules scarcely twice as long as the involucre, 2–3-dentate; disk-flowers 5-dentate.—Matricaria prostrata, *Sw.*—HAB. Jamaica!, *M'Nab, March;* Antigua!, *Wullschl.;* Trinidad!, *Sch.;* [Haiti to French islands!; Venezuela, equat. Brazil!].

46*. PYRETHRUM, *G.*

Head radiate (or discoid): ray-flowers ♀. *Involucre* imbricate. *Receptacle* convex, naked. *Corolla-tube* of the disk-flowers winged-compressed. *Style-branches* truncate. *Achenium* prismatical: angles equidistant: crown membranaceous.—Ray *white or yellow.*

136*. **P. Parthenium,** *Sm.* Perennial, glabrescent; leaves petioled, pinnatisect: pinnæ pinnatifid, uppermost serrate; heads in a terminal corymb: ray white; involucre hemispherical, at length umbilicate, half as long as the ray; crown of the achenium short, lacerate.—Matricaria, *L.*—HAB. Naturalized in Jamaica!, *M'Nab;* [introduced from Europe].

Subseries 6. **Gnaphalieæ.**—*Head discoid. Anthers tailed. Style-branches truncate-penicillate. Pappus pilose.*—Leaves alternate, often woolly.

47. GNAPHALIUM, *L.*

Head heterogamous: exterior flowers ♀, numerous, filiform, central hermaphrodite. *Involucre* connivent-imbricate, scarious. *Receptacle* flat, naked. *Achenium* subcompressed or cylindrical: pappus soft, 1-serial, deciduous.—Leaves *sessile or decurrent.*

* *Clusters corymbose.*

137. **G. albescens,** *Sw.* Stem erect, white-tomentose, suffrutescent at the base; *leaves sessile,* linear-lanceolate, acuminate, *tapering towards the base,* subentire, *tomentose on both sides,* white beneath; clusters in a terminal corymbose panicle; *involucral scales white,* ovate or oblong, bluntish or blunt; flowers 20–30, hermaphrodite few.—G. polycephalum, *Mich.* (obtusifolium, *L.*), is apparently a variety with the leaves roughish and green on the upper side, the involucral scales proving variable.—2′–3′ high; leaves 1‴ broad at the base; heads 2‴ long.—HAB. Jamaica!, *Bancr., Al.,* on the summits of the Liguana hills; [Cuba!; *G. polycephalum* from the United States! to Chili (*Less.*)].

138. **G. domingense,** *Lam.* Stem erect, white-tomentose, suffruticose at the base; *leaves broadly sessile,* lanceolate, shortly acuminate, unequally crenate, *rough on the upper green side, white-tomentose beneath;* clusters in a terminal, subfastigiate corymb; involucre campanulate: *scales whitish-straw-coloured,* ovate or ovate-oblong, bluntish or blunt; flowers 50–60, hermaphrodite 7–8.—G. elegans, *Kth.* G. Pœppigianum, *DC., ap. Benth. Pl. Hartweg.!* G. oxyphyllum, β semilanatum, *DC., ap. Steetz, Pl. Seem.!*—Stouter than the preceding; leaves 2‴ broad at the base: heads 3‴ long, sometimes pale-rusty.—HAB. Jamaica!, *Macf., M'Nab, Wils., March,* in the mountains of S. Andrews, at 4000′ alt.; [Haiti; Mexico to Peru].

** *Clusters spicate.*

139. **G. americanum,** *Mill., Sw.* Stem erect, white-tomentose, nearly simple; leaves spathulate-lanceolate, *white-tomentose beneath, with appressed down,* lowest spathulate; *clusters spicate,* inferior usually shortly peduncled, distant; involucre few-serial: *inner scales oblong, pointed or bluntish,* brownish above or whitish; achenium slightly scabrous. —*Hook. Fl. Antarct.* 2. *t.* 93.—G. spicatum, *Lam. sec. Less.* (*Linnæa,* 1831, *p.* 226): with Lessing, I distinguish *G. purpureum,* L. (Dill. Ht. f. 132), by the linear, blunt inner scales of the involucre, and the more deciduous wool of the leaves.—HAB. Jamaica!, *Pd. M'Nab, Wils., March,* in the mountains at 4000′ alt. and lower down, S. Andrews, S. Thomas i. V., Manchester; [Texas! to Antarctic America!; Falklands!, Juan Fernandez!].

Subseries 7. **Senecioneæ.**—*Disk-flowers hermaphrodite. Anthers not tailed. Pappus pilose.*—Leaves usually alternate.

48. NEUROLÆNA, *R. Br.*

Head discoid, homogamous. *Involucre* imbricate: inner scales coloured. *Receptacle* flattish, paleaceous. *Style-branches* with a conical summit. *Achenium* terete, shortly stipitate: pappus-hairs scabrous.—A suffrutescent, scabrous herb; leaves *tapering at the base, serrate or trifid; involucre-scales blunt, striate;* heads *yellow, in a corymbose panicle.*

140. **N. lobata,** *R. Br.*—*Sl. t.* 154. *f.* 4.—Conyza, *L.* Calea, *Sw.*—4′–7′ high; leaves variable, oblong-lanceolate or ovate-lanceolate, cuneate below the lobes, puberulous, scabrous or tomentose beneath.—HAB. Jamaica!, all coll., common in the hills and valleys, along riversides; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! and Mexico! to Ecuador! and Guiana!].

49. ERECHTHITES, *Raf.*

Head heterogamous: exterior flowers ♀, filiform, central hermaphrodite. *Involucre* 1-serial, with exterior accessory scales. *Receptacle* naked. *Style-branches* with a conical summit. *Achenium* terete, striate, with keels, tapering above: pappus soft.—Annual herbs: habit of *Sonchus:* heads *in corymbs, whitish.*

141. **E. hieracifolia,** *Raf.* Glabrescent or hairy; stem erect, striate; leaves oblong-lanceolate, sessile at the tapering base, dentate or inciso-dentate; corymb suberect; involucre cylindrical: exterior scales 6–12; achenium slightly tapering above.—Senecio, *L.*—Inner scales of the involucre somewhat combined, at length distinct.

[*α.* Glabrescent; inner scales of the involucre broadly linear, 8‴ long, exterior about 6, much shorter.—United States!; Venezuela!]

β. carduifolius, DC. Glabrescent; inner scales of the involucre narrow, 4‴–5‴ long, exterior about 12, half or ⅓ as long, somewhat squarrose.—Senecio hieracifolius, *Mey. Esseq.!*

γ. cacalioides, Less. Hairy; inner scales of the involucre narrow, 5‴–6‴ long, exterior about 8, ⅓ as long, suberect.—Sonchus agrestis, *Sw.*

HAB. Jamaica!, all coll., a common weed (*γ*); Antigua!, *Wullschl.* (*β*); S. Vincent!, *Guild.*; Trinidad!, *Cr.* (*β*); [United States! to Buenos Ayres!; naturalized in Mauritius!].

50*. EMILIA, *Cass.*

Head discoid, homogamous. *Involucre* 1-serial, devoid of accessory scales. *Receptacle* naked. *Style-branches* with a conical summit. *Achenium* 5-gonal, scabrous on the angles: pappus soft.—Annual herbs; heads *in loose corymbs.*

142*. **E. sonchifolia,** *DC.* Glaucous, glabrescent; inferior leaves lyrate, superior sagittate, stem-clasping; heads long-pedicellate, orange-purple, many-flowered; *involucre* cylindrical, *nearly as long as the flowers;* corollæ straight.—Cacalia, *L.*—HAB. Jamaica!, *Al.*, a weed; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*; Trinidad!, *Sieb. Tr.* 78; [Guiana! to Brazil!; East Indies!].

51. GYNOXYS, *Cass.*

Head radiate: ray-flowers ♀, ligulate. *Involucre* 1-serial, with exterior accessory scales. *Receptacle* flat, naked. *Style* with a tumour at the base: branches terminated by a pointed, subuliform, hispidulous appendage. *Achenium* subcylindrical: pappus soft.—Woody plants, *often scandent;* heads *yellow, corymbose.*

Many South American, and chiefly the West Indian *Seneciones*, have a short conical appendage to the style-branches: hence *Gynoxys*, if *Senecio* is not further dismembered, is as yet an artificial genus.

143. **G. incana,** *Less.* Whitish, with thin arachnoid down; leaves alternate, subsessile, lanceolate-oblong or elliptical-oblong, pointed, dissected into lobes or large teeth at the

tapering base, remotely serrate or serrulate above, glabrescent on the upper side; corymbs compound, special subglobose; heads 12–18-flowered: ligules 5–6, linear, 2-dentate, half as long again as the involucre; scales of the involucre 10–12, accessory few, short, linear.—Cineraria, *Sw.!* Senecio jamaicensis, *DC.*—A shrub (*Sw.*), but somewhat trailing (*Pd.*); leaves 12″–5″ long; involucre 4‴ long; teeth of the disk-flowers linear; style-branches exactly as in *G. Cumingii*: basilar tumour conical; achenium glabrous, callous at the thickened base.—HAB. Jamaica!, *Sw.*, *Macf.*, *Wils.*, in the mountains, near S. Ann's bay, Westmoreland, southern districts.

52. SENECIO, *L.*

Head radiate, rarely discoid: ray-flowers ♀, ligulate. *Involucre* 1-serial, with exterior accessory scales. *Receptacle* flat, naked. *Style-branches* truncate, or with a short conical appendage. *Achenium* subcylindrical: pappus soft.—Our West Indian species are shrubs, *with corymbose inflorescence.*

Sect. 1. PERICALIA.—*Corollæ of the disk abruptly dilated at the base. Style with a basilar hemispherical tumour: branches convex at the summit.*—Ray white.

144. **S. discolor,** *DC.* Branches arachnoid-tomentose, glabrescent; *leaves* oblong-lanceolate, acuminate, serrulate, *glabrous above, white-tomentose beneath,* arch-veined; corymbs compound; involucral scales 8–10, oblong-linear, tomentose in the middle, accessory linear-setaceous; ligules 5 (4–6), obovate, shortly exserted; disk-flowers 10–15; achenium nearly glabrous.—*Bot. Mag. t.* 2647.—Cineraria, *Sw.*—5′–6′ high; leaves 2″–6″, involucre 2‴–3‴ long; the ray-flowers white, with the disk yellow ("flores albido-lutescentes," *Sw.*), but the ray becomes yellow in being dried.—HAB. Jamaica!, all coll., common in the mountains, from 400′ to 4000′ alt., Port Royal, S. Andrews, Manchester.

Sect. 2. CONOGYNOXYS.—*Corollæ of the disk gradually dilated at the base. Style with a basilar, conical tumour: branches conical, or convex at the summit, rarely mucronate.*—Ray yellow.

145. **S. Swartzii,** *DC.* *Glabrous; branches cylindrical;* leaves oblong or elliptical-oblong, pointleted, quite entire or repand-dentate, petioled: *veins distant,* pinnate; corymbs compound, fastigiate; *scales of the involucre* 8–10, oblong-linear, acuminate, accessory short; ligules 4–3, oblong, half as long again as the involucre, *disk-flowers* 6–8; achenium hairy.—Cineraria glabrata, *Sw.* Gynoxys, *Less.*—5′–6′ high; leaves 4″–3″ long, blunt or tapering at the base; involucre 4‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, *Wullschl.*, *March,* in moist mountain-woods.

146. **S. lucidus,** *DC.* *Glabrous; branches angular;* leaves oblong-lanceolate, acuminate (or "inferior elliptical"), serrulate, shortly petioled: *veins* 8–10-*paired;* corymbs compound; *scales of the involucre* 6, oblong, bluntish, accessory few, short; ligules 3 (–4), lanceolate, nearly twice as long as the involucre, *disk-flowers* 8–4; achenium glabrous: pappus pale-straw-coloured.—*Plum. Ed. Burm. t.* 154: differing by elliptical leaves.—Cineraria, *Sw.* Gynoxys, *Less.*– An arborescent shrub; leaves 6″–4″, involucre 3‴ long.—HAB. Dominica!, *Imr.*; Trinidad (*Sieb.*); [French islands!, in mountain-woods at 3000′ alt.].

147. **S. Fadyenii,** *Gr.* (*n. sp.*). *Glabrous; branches cylindrical;* leaves lanceolate-oblong or oblong, pointed, tapering into the long petiole, dentate-repand above, with distant, blunt, callous teeth: *principal veins* 10–12-*paired,* alternating with a loose network; corymbs few-branched; *scales of the involucre* 5, oblong, blunt, accessory few, minute; *ligules* 2–3, lanceolate, 3-dentate, ¼ longer than the involucre, *disk-flowers* 5–3; achenium glabrescent: pappus white.—Leaves 6″–5″ long, 2″–1½″ broad: petiole 1″–1½″, involucre 3‴ long.—HAB. Jamaica!, *Macf.*

148. **S. laciniatus,** *DC.* Glabrous or puberulous, glabrescent; branches cylindrical; *leaves* spathulate-oblong, *runcinate-lobed,* tapering at the base: lobes remotely denticulate: veins pinnate: petiole clasping at the base; corymbs branched; *scales of the involucre* 12–14, oblong-linear, bluntish; "ligules 6, ovate, emarginate, *disk-flowers* 20–24."—Cineraria, *Sw.* Gynoxys, *Less.*—Leaves 5″–6″, involucre 3‴ long.—HAB. Jamaica!, *Macf.*, on the peaks of the Blue Mountains.

53. LIABUM, *Ad.*

Head radiate: ray-flowers ♀, ligulate. *Involucre* imbricate: scales acuminate, interior longer. *Receptacle* fimbrillate. *Style-branches* hispidulous. *Achenium* cylindrical: pappus pilose, 1–2-serial.—Perennial herbs *or* shrubs; leaves *opposite, white-tomentose beneath; heads yellow, corymbose or solitary.*

149. **L. Brownei,** *Cass.* Herbaceous, arachnoid; stem simple, leafless above; *leaves ovate or ovate-oblong,* bluntish, *abruptly contracted at the base,* dentate, glabrate above: *petioles winged,* often crenate, *contiguous at the base;* corymbs compound, many-headed; pappus soft, straw-coloured: exterior hairs of the same texture, shorter.—*Br. Jam. t.* 33. *f.* 2.—Amellus umbellatus, *L.* Starkea, *W.*—1′–2′ high; leaves 3″–4″ long, somewhat longer than the petiole.—HAB. Jamaica!, all coll., in the higher mountains; [Cuba!, Haiti].

TRIBE II. *LABIATIFLORÆ.—Corollæ 2-lipped, or ligulate only in the ray.*

54. LERIA, *DC.*

Head heterogamous: ♀ flowers pluriserial, exterior ligulate, central bisexual. *Involucre* slightly imbricate, few-serial. *Receptacle* naked. *Anthers* tailed. *Style-branches* puberulous. *Achenium* subcompressed: facets costate: summit tapering into a filiform beak: pappus pilose.—Annual (*Sw.*) herbs; leaves *all rosular, white-tomentose beneath; scape often nodding at the top,* 1-*headed;* flowers *white or purple:* ray *scarcely exserted;* pappus *usually purplish-straw-coloured.*

150. **L. nutans,** *DC. Leaves lyrate:* terminal segment large, ovate-oblong; involucral scales lanceolate-linear, acuminate; *beak* 2–3 *times longer than the achenium.—Sl. t.* 150. *f.* 2.—Tussilago, *L.* L. integrifolia, *DC.:* a form with the basilar leaf-lobes reduced.—Scape usually 1′–2′ high; leaves large: inferior lobes few, rounded; involucre 12‴–8‴ long; ray purple.—HAB. Jamaica!, *Al., M'Nab,* a weed; Antigua!, *Wullsehl.,* Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Cr.,* common; [Texas! to Montevideo!].

151. **L. dentata,** *Spreng. Leaves spathulate or spathulate-lanceolate,* tapering at the entire base, *regularly sinuate above;* involucral scales linear, acuminate; *beak half as long again or twice as long as the achenium.—Plum. Ed. Burm. t.* 40. *f.* 2.—Tussilago, *L.* Chaptalia, *Cass.* C. tomentosa, *Vent.,* is a congener too. L. sinuata, *DC.*—Leaves much narrower than in the preceding, 4‴–6‴ broad; involucre 10‴–12‴ long; interior flowers bisexual.—HAB. Jamaica!, *Dist., Wullschl.,* Manchester.

152. **L. albicans,** *DC. Leaves spathulate-lanceolate, pointed,* with a few, minute, distant teeth or *entire;* involucral scales linear, acuminate; *beak as long as the achenium.*—Tussilago, *Sw.* L. nutans, *var.* integrifolia, *Less.*—Scape spithameous; leaves 5‴–9‴ broad; involucre 6‴–10‴ long.—HAB. Jamaica!, *Wils.,* in dry pastures; [Cuba! and Mexico! to Brazil!].

153. **L. pumila,** *DC. Leaves lyrate-spathulate:* terminal segment contracted into the uppermost sinuosity; *involucral scales* short, lanceolate-linear, *bluntish at the top; beak shorter than the achenium.*—Tussilago, *Sw.*—Scape 3″–6″ high, filiform, glabrate; leaves 4‴ broad; involucre 4‴ long.—HAB. Jamaica!, *Wils.,* in calcareous, high mountains; [Cuba!].

55. TRIXIS, *P. Br.*

Head homogamous. *Involucre* 1–2-serial. *Receptacle* fimbrillate or naked. *Anthers* tailed. *Style-branches* truncate. *Achenium* subcylindrical, tapering above or shortly beaked: *pappus* pilose.—Shrubs *or* herbs; leaves *undivided;* heads *usually corymbose, yellow or whitish.*

154. **T. frutescens,** *P. Br.* Shrubby, glabrescent; leaves shortly petioled, lanceolate-oblong, ,denticulate or entire; corymbs leafy; involucre 1-serial: scales 8, foliaceous, oblong-linear, ciliate, with a few exterior accessory ones: achenium tapering below the top.—*Br. Jam. t.* 33. *f.* 1.—Inula Trixis *and* Perdicium radiale, *L.*—4′–5′ high: leaves 1½″–4″,

involucre 5‴–6‴ long.—HAB. Jamaica !, *Macf.*; Trinidad !, *Lockh.*, *Cr.*, in barren hills; [Cuba !, Haiti !, Texas !, Mexico !, Guatemala !, New Granada !, Venezuela !].

TRIBE III. *LIGULIFLORÆ.—Corollæ homogamous, all ligulate.*

56*. LAMPSANA, *T.*

Head 8–12-flowered. *Involucre* 1-serial, with accessory scales. *Receptacle* naked. *Achenium* oblong-linear, flat-convex, striate, naked.—Herbs; heads *yellow, in branched corymbs.*

155*. **L. communis,** *L.* Annual, glabrescent; leaves dentate or inferior lyrate; ligules shortly exserted.—HAB. Naturalized in Jamaica !, *Al., M'Nab*, near Kingston, in the Blue Mountains; [introduced from Europe].

57*. TARAXACUM, *Hall.*

Involucre 2-serial. *Receptacle* naked. *Achenium* subcompressed-oblong, beaked above the muricate or tubercled summit: *pappus* pilose, pluriserial, white.—Herbs; leaves *all rosulate;* scape *mostly* 1-*headed;* head *yellow.*

156*. **T. officinale,** *Vill.* Glabrous; leaves usually runcinate; involucral scales lanceolate, exterior reflexed; achenium muricate above, shorter than the beak.—HAB. Naturalized in Jamaica !, *Wullschl.*; [introduced from Europe].

58. BRACHYRHAMPHUS, *DC.*

Head 10–15-flowered. *Involucre* imbricate, few-serial. *Receptacle* naked. *Achenium* subterete, muricate, longitudinally furrowed, shortly tapering at the summit: *pappus* pilose, pluriserial, white.—An annual, erect, branched, glabrous herb; leaves *usually runcinate-lyrate, superior sagittate-clasping;* heads *yellow, distant in a loose panicle, with spiciform branches.*

157. **B. intybaceus,** *DC.*—Lactuca, *Jacq.* B. caribæus *and* sonchifolius, *DC.*—A variable tropical weed: habit of *Sonchus.*—HAB. Antigua !, *Wullschl.*; Trinidad !, *Cr.*; [Portorico to Guadeloupe !; Nicaragua; East Indies !, trop. Africa].

59. LACTUCA, *L.*

Involucre imbricate, few-serial. *Receptacle* naked. *Achenium* flat-compressed, smooth, abruptly beaked: *pappus* pilose, white.—Heads *narrow, usually* paniculate.

158. **L. jamaicensis,** *Gr.* (*n. sp.*). Glabrous; stem stout, erect; leaves unarmed beneath, dentate or entire, inferior usually runcinate with a few pointed lobes, or lanceolate-oblong, half-clasping at the tapering base, superior lanceolate, acuminate, sessile; panicle spreading: branches racemiform; *achenium oval-oblong,* black, 3-striate at the middle, *much longer than the very short beak.*—Perhaps a form of *L. indica*, L. (Mauritius?), which has the same achenia, but much narrower leaves. Several feet high, suffrutescent at the base; inferior leaves 8″–4″ long, 2″–1″ broad, superior 4″ long, 8‴–6‴ broad; panicle often 2′ long; involucre 6‴ long; achenium 2‴ long, rounded below the filiform beak, which is black with a white summit, scarcely ½‴ long.—HAB. Jamaica !, *M'Nab, March, Wullschl.*, in the mountains of Port Royal, S. Marys, Manchester.

60. SONCHUS, *L.*

Involucre imbricate. *Receptacle* naked. *Achenium* flat-compressed, truncate at the summit: *pappus* pilose, white.—*Heads* yellow.

159. **S. oleraceus,** *L.* Annual; leaves runcinate or subentire, dentate: corymbs eglandular; *achenium* 3-striate, *transversely rugulose.*—HAB. Jamaica !, *M'Nab*; Antigua !, *Wullschl.*, S. Vincent !, *Guild.*; Trinidad !, *Cr.*, a weed; [Europe ! to Abyssinia !, East Indies !, Australia !, New Zealand !; Canada ! to Patagonia].

160. **S. asper,** *Vill.* Annual; leaves dentate or slightly runcinate; corymbs eglandular; *achenium smooth:* streaks 3(–5), diverging.—HAB. Jamaica, *March,* a weed; [Europe! to the Cape!, East Indies!, Australia!, New Zealand!; French islands!; Newfoundland to Chili].

XCVI. LOBELIACEÆ.

Corolla sympetalous, asymmetrical. *Stamens* 5, epigynous, rarely inserted into the corolla: *anthers* connected. *Ovary* inferior or semi-inferior, syncarpous: ovules indefinite; style with collecting hairs. *Embryo* straight, included in the albumen.—Leaves *alternate, exstipulate;* inflorescence *usually racemose;* odd calyx-lobe *distant from the axis.*

The milky juice in this Order is very acrid. *Tupa* is reputed venomous, and *Isotoma longiflora* is one of the most poisonous plants of the West Indies.

1. CENTROPOGON, *Prl.*

Corolla 2-lipped: tube entire, incurved. *Two anthers* awned at the top. *Berry* 2-celled.—Suffruticose herbs *or* shrubs; pedicels *axillary.*

1. **C. surinamensis,** *Prl.* Glabrescent; leaves shortly petioled, ovate or ovate-oblong, pointleted, rounded at the base, serrulate; pedicels shorter than the leaf, bracteolate near the base; calyx-lobes lanceolate-acuminate, longer than the hemispherical tube; corolla crimson, slightly dilated; column long-exserted: anthers pilose, 3 bearded at the top; berry globose.—*Bot. Mag. t.* 225.—Lobelia, *L.*—A shrub; corolla $1\frac{1}{2}''$ long; exserted part of the filaments $4'''$ long, as long as the anthers.—HAB. S. Vincent; Trinidad!, *Lane, Cr.;* [Venezuela!, New Granada!, Peru!, Guiana!, Brazil!].

2. SIPHOCAMPYLUS, *Pohl.*

Corolla 2-lipped: tube entire, or the petals distinct at the base. All or two *anthers* bearded at the top. *Fruit* 2-celled, capsular, rarely baccate.—*Pedicels* axillary.

2. **S. Berterianus,** *G. Don.* Scandent, glabrous; leaves ovate, acuminate with a narrow point, rounded at the base, remotely serrulate and crenulate-repand, petioled, exceeding the pedicels; calyx-lobes subulate: tube ovoid; corolla clavate, straightish, crimson: limb short; anthers all bearded at the top: *berry globose.*—Lobelia, *Spreng.* Centropogon, *A. DC.:* separated from *Siphocampylus* and referred to *Centropogon* on account of its berry, but from habit and awnless anthers a congener of the former.—A suffruticose climber; corolla equalling the stamens, $1''$ long; berry $4'''$ diam.—HAB. Dominica!, *Imr.;* [Haiti!, Guadeloupe!].

3. LOBELIA, *L.*

Corolla 2-lipped: tube cleft on the anterior (superior by torsion) side. Two or all *anthers* bearded at the top, rarely glabrous. *Stigma* 2-lobed. *Capsule* 2-celled, opening at the top.—Flowers *usually racemose.*

3. **L. Cliffortiana,** *L.* Annual, glabrous or glabrescent; leaves ovate, unequally and obtusely serrate, petioled; raceme loose: *pedicels filiform, exceeding the lanceolate bracts;* calyx-tube turbinate-campanulate: lobes linear-acuminate, half as long as the corolla; 2 anthers bearded; *capsule produced beyond the calyx-tube.*—*L. Cliff. t.* 26.—L. xalapensis, *Kth.:* a form with the ovary nearly superior.—$1'$ high, delicate; corolla purplish-blue, $2'''$ long.—HAB. Jamaica!, *Macf., Al., Wils., March,* in waste places; Dominica!, *Imr.* (L. xalapensis); Trinidad!, *Pd.;* [Cuba! and Mexico! to Brazil].

4. **L. trinitensis,** *Gr.* (*n. sp.*). Annual, glabrous: stem angular; leaves lanceolate, crenulate or subentire, subdecurrent, the lowest elliptical, subsessile; raceme slender, interrupted; *pedicels usually half as long as the bracts;* calyx-tube campanulate: lobes subulate, including the corolla, half as long as the capsule; 2 anthers shortly bearded, the rest glabrous: capsule inferior, with the valves exserted.—Related to *L. camporum,* Pohl, which has a longer corolla; and to *L. anceps,* Thunb., distinguished by short calyx-lobes: in *L. domingensis,* A. DC., all anthers are said to be hairy at the top.—$8''$–$12''$ high, slender;

leaves 18‴–6‴, pedicels 2‴, corolla 1‴–1½‴, capsule 2‴ long.—Hab. Trinidad!, *Lockh.*, *Cr.*, common in savannahs and gardens.

4. TUPA, *G. Don.*

Character of *Lobelia*, but *corolla* 1-lipped, cleft to the base on the anterior (superior by torsion) side.—Stout perennial herbs *or* shrubs; stem *simple, leafy towards the base; flowers large, racemose.*

In the West Indian species the stem is herbaceous, the leaves glabrous, the pedicels bibracteolate above and often adnate at the base to the bract, the corolla with linear lobes, 5-fid, or the 3 middle lobes usually connected higher up to the disk developed, and the stigma broadly 2-lamellate or 2-globose.

* 2 *anthers bearded at the top,* 3 *with a glabrous summit; leaves subsessile or petioled.*

5. **T. acuminata,** *A. DC.* *Leaves lanceolate,* pointleted, serrulate with bluntish teeth, subsessile; *raceme* lax, *glabrous:* pedicels elongated, longer than the linear bract; calyx-tube hemispherical: lobes lanceolate-acuminate; *corolla* twice as long as the calyx-lobes, glabrous, *arcuate,* dilated at the base; filaments and connectives hairy: 2 anthers densely bearded, the rest glabrous at the rounded summit.—*Tuss. Fl.* 3. *t.* 36: the leaves narrower than in our plant.—Lobelia, *Sw.*—3′–4′ high; leaves 5″–12″ long, 1½″ broad; corolla 8‴ long, whitish or pale-purple.—Hab. Jamaica!, *Pd.*, *M'Nab,* in mountain-woods, Portland, S. Marys; [Haiti].

6. **T. ensifolia,** *A. DC.* *Leaves linear-lanceolate,* acuminate, serrulate with spinuliform teeth, subsessile; *raceme* elongated, *puberulous:* pedicels nearly as long as the elongated linear bract, incurved; calyx-tube hemispherical: lobes shortly subulate; *corolla* puberulous, *straightish,* dilated at the base; filaments glabrous: 2 anthers densely bearded at the summit, the rest glabrous.—*Sl. t.* 95. *f.* 2.—3′ high; leaves 8″–4″ long, 6‴ broad; raceme 6″–12″, pedicels 6‴–8‴, corolla 9‴ long, yellowish-white (*Sl.*).—Hab. Jamaica!, *Al.*, *Pd.*, in woods, near the coast of Port Antonio, Mount Diable; [Haiti!].

7. **T. caudata,** *Gr.* (*n. sp.*). *Leaves linear,* caudate-acuminate, tapering into the petiole, *pinnatifid-dentate* with numerous, unequal, linear, spreading teeth, entire at both ends; *raceme* short, *unilateral, puberulous:* pedicels as long as the flower, which is exceeded by the flexuose bract; calyx-tube hemispherical: lobes linear, recurved, ⅓–¼ as long as the incurved puberulous corolla; filaments glabrous: 2 anthers densely bearded at the summit, the rest glabrous.—1′ high; leaves 6″–8″ long: the lamina 4‴ broad, its longer teeth 2‴ long; corolla 6‴–8‴ long, greenish-white.—Hab. Jamaica!, *Pd.*, *M'Nab.*, S. George.

8. **T. flavescens,** *A. DC.* *Leaves lanceolate-oblong,* shortly acuminate, *serrate* with cartilaginous, incurved, spinuliform teeth, broadly sessile, lowest approximate, cauline decrescent; *raceme elongated, compact, glabrous: pedicels* as long as the flower, cernuous, *exceeded by the large,* oblong-lanceolate, serrate *bract;* calyx-tube convex-flattish: lobes much longer, lanceolate-acuminate, serrulate; *corolla* twice as long as the calyx-lobes, *glabrous, arcuate;* filaments glabrous: 2 anthers densely bearded at the summit, the rest glabrous.—Lobelia conglobata, *Sieb. sec. A. DC.*—1½′ high; lower leaves 5″–6″ long, 10‴–12‴ broad; raceme 6″–8″, calyx-lobes 4‴ long; corolla pale.—Hab. Dominica!, *Imr.*, in the Couliabon mountains; [Martinique].

9. **T. Martagon,** *Gr.* (*n. sp.*). *Leaves lanceolate,* acuminate, sessile, serrulate with cartilaginous teeth, lowest rosulate, cauline distant from the *raceme,* which is *long, spreading, puberulous; pedicels* longer than the large flowers, *exceeding the* oblong-lanceolate, serrulate *bract,* bibracteolate with oblong-linear, serrulate bractlets, *nodding-incurved below the summit;* calyx-tube hemispherical: lobes broadly lanceolate-acuminate, serrulate; *corolla* twice as long as the calyx-lobes, *puberulous, incurved;* filaments and connectives ciliate-puberulous: 2 anthers shortly bearded, the rest glabrous at the obliquely truncate summit. —A showy plant, 1½′–2′ high, in foliage resembling the preceding; rosular leaves 6″–4″ long, 8‴–10‴ broad; bracts 1½″–2″ long, 6‴–4‴ broad, bractlets 6‴–4‴ long; raceme 6″–15″, pedicels 3″–2″, calyx-lobes 6‴ long; corolla purple; anthers 5‴ long, longer than in the preceding.—Hab. Jamaica!, *Pd.*, *Al.*, *M'Nab,* in mountain-woods, on the peaks of the Blue Mountains, on Mount Diable, near Moneague.

** *2 anthers bearded at the top, 3 hairy above, or glabrescent ; leaves decurrent ; raceme unilateral, nodding.*

10. **T. assurgens,** *A. DC.* *Leaves lanceolate-oblong, acuminate,* tapering and decurrent at the base, serrulate with pointed spreading teeth ; *raceme pubescent,* elongated, nodding at the top, unilateral : bracts lanceolate-linear, or linear serrulate or subentire ; *corolla* twice as long as the calyx-lobes, *pubescent, falcate from the middle ;* filaments ciliate-pubescent : 2 *anthers shortly bearded* above, 3 hairy above, but devoid of a terminal beard.—*Bot. Mag. t* 3138.—Lobelia, *L.*, *Sw.* L. robusta, *Grah. !* (Tupa, *A. DC.*).—3′-4′ high ; leaves 12″-6″ long, 2½″-2″ broad ; bracts of variable length, often equalling the flower, or shorter than the pedicel : the latter recurved, usually 2″ long ; calyx-lobes 6‴-4‴ long ; corolla dull-purple.—HAB. Jamaica !, *M'Nab, Don, Pd., March,* in high mountains, Port Royal, Blue Mountains ; [Cuba !, Haiti].

11. **T. conglobata,** *A. DC.* *Leaves lanceolate-oblong, shortly pointleted,* gradually tapering into the narrowly decurrent petiole, serrulate with mucronate teeth ; *raceme puberulous, glabrescent,* short, often compact, nodding-unilateral : bracts linear ; calyx-tube turbinate-hemispherical : lobes lanceolate-linear, serrulate ; *corolla* twice as long as the calyx-lobes, *glabrescent, falcate from the middle ;* filaments ciliate ; connectives hairy or glabrescent : 2 *anthers long-bearded :* the hairs rigid, often exceeding the glabrous summit of the other anthers.—Lobelia, *Lam.*—Inferior leaves 15″-12″ long, 3″-2″ broad ; calyx-lobes 6‴-8‴ long ; corolla white (*Al.*) ; the anther-beard longer than in the other species.—HAB. Jamaica !, *Pd., Al., March, Wullschl.*, in moist mountain-woods, Manchester, S. Anns.

*** *All anthers bearded at the summit.*

† *Leaves subsessile ; raceme elongated.*

12. **T. digitalifolia,** *Gr.* (*n. sp.*). *Leaves lanceolate,* acuminate, *serrulate with* somewhat distant, spinuliform, *incurved-accumbent teeth ; raceme* elongated, *glabrous :* pedicels nearly as long as the linear, entire bract, spreading, bibracteolate at the middle ; *calyx-tube turbinate-hemispherical : lobes lanceolate-acuminate,* entire ; *corolla* twice as long as the calyx-lobes, *glabrous, falcate above ;* filaments glabrous : anthers all bearded at the summit.—Leaves 5″-8″ long, 9‴-15‴ broad ; raceme 1′ long ; pedicels 1″ long, incurved at the top : bractlets setaceous ; calyx-tube 4‴, lobes 6‴ long ; corolla 10‴-12‴ long, pale.—HAB. Dominica !, *Imr.*

13. **T. cirsiifolia,** *A. DC.* *Leaves lanceolate,* acuminate, *serrate with spreading* subulate-spinuliform teeth, approximate near the middle of the stem ; *raceme glabrous :* pedicels bibracteolate above the middle, nearly as long as the lanceolate-linear serrulate bract, inferior exceeded by the bract ; *calyx-tube hemispherical : lobes linear* from a subulate base, subentire, spreading ; *corolla* twice as long as the calyx-lobes, *glabrous, falcate above ;* filaments glabrous : anthers all densely bearded at the summit.—*Bot. Mag. t.* 2137.—Lobelia, *Lam.* L. racemosa, *Sims* (Tupa, *A. DC.*).—3′-5′ high ; leaves 6″-8″ long, 12‴ broad, superior narrower, distant ; pedicels 1″ long : bractlets setaceous ; calyx-tubes 2‴, lobes 5‴ long ; corolla 10‴ long, greenish.—HAB. S. Kitts, S. Vincent !, *Guild.*

14. **T. infesta,** *Gr.* (*n. sp.*). *Leaves linear-lanceolate,* acuminate, *serrate with* somewhat distant, *spreading,* subulate-spinuliform teeth, approximate below, distant from the elongated, glabrescent raceme ; pedicels longer than the highly adnate, linear, serrulate bract, bibracteolate below the middle ; *calyx-tube hemispherical : lobes ovate-lanceolate,* acuminate, serrulate, spreading ; *corolla thrice as long as the calyx-lobes, glabrous, falcate above ;* filaments glabrous : anthers all densely bearded at the summit.—Habit of *T. ensifolia ;* leaves 4″-6″ long, 6‴-7‴ broad ; pedicels 9‴-10‴ long, incurved : bracts inserted 2‴ above their base, 4‴-6‴ long, inferior longer : bractlets setaceous ; calyx-tube 2‴, lobes 3‴ long ; corolla 8‴-9‴ long, greenish.—HAB. S. Kitts !, *Els.*, Grenada (*Els.*), a noxious weed in cocoa-plantations.

†† *Leaves petioled ; raceme leafy.*

15. **T. persicifolia,** *A. DC.* *Stem leafy to the summit ; leaves lanceolate,* acuminate at both ends, petioled, serrate with mucronate teeth ; raceme leafy, glabrous : *pedicels elongated,* slender, bibracteolate near the base, distinct from the floral leaf, which often equals the flower ; calyx-tube turbinate-hemispherical : lobes subulate-linear, subentire ; *corolla*

thrice as long as the calyx-lobes, glabrous, *arcuate above the middle;* filaments ciliate at the base: anthers all densely bearded at the summit, connectives slightly hairy.—*Deless. Ic.* 5. *t.* 11. *Bot. Mag. t.* 3012.—Lobelia, *Lam.* L. Kraussii, *Grah.*—Leaves 8″–4″ long, 1½″–1″ broad, floral gradually decrescent; pedicels 2″–1″ long; corolla 15‴–18‴ long, crimson.—HAB. Dominica!, *Imr.*, in the high mountains; [Guadeloupe!; Guatemala!].

The number of West-India *Tupæ,* though several were to be reduced, is not yet exhausted: there is a broad-leaved St. Vincent species, related to *T. flavescens,* but not in a state fit for publication: this must be compared with *T. stricta* of Guadeloupe, which, as well as *T. sonchifolia* (Lobelia, *Sw.*) is unknown to me.

5. IOSOTOMA, *R. Br.*

Corolla salver-shaped: tube long-filiform, limb slightly unequal. *Stamens* inserted into the corolla-tube. Two or all anthers bearded at the top. *Capsule* 2-celled.—Herbs; flowers *axillary or racemose.*

16. **I. longiflora,** *Prl.* Perennial, pubescent; stem flaccid, leafy; leaves lanceolate-oblong, sinuate-dentate, tapering at the subsessile base; pedicels short, axillary; calyx-lobes lanceolate, serrulate; corolla-tube nearly as long as the leaf: lobes lanceolate, much shorter; all anthers shortly bearded.—*Sl. t.* 101. *f.* 2. *Plum. Ed. Burm. t.* 253. *Jacq. Amer. Pict. t.* 200. *Tuss. Fl.* 4. *t.* 25. *Desc. Fl.* 3. *t.* 156.—Lobelia, *Jacq.*—Leaves 3″–4″ long; corolla white; capsule ovoid, nodding.—HAB. Jamaica!, all coll., common in moist, shady places; Antigua!, *Nichols.*, Dominica!, *Imr.*; [Cuba! to French islands!].

XCVII. GOODENOVIEÆ.

Character of *Lobeliaceæ,* but odd calyx-lobe next the axis, corolla-lobes induplicative, stigma indusiate, and sap not milky.

1. SCÆVOLA, *L.*

Corolla 1-lipped, cleft on the superior side. *Anthers* distinct. *Indusium* of the stigma bearded. *Pericarp* drupaceous: cells 1-seeded.—Flowers *mostly in axillary cymes;* corolla *villous within;* lobes *winged, often fimbriate.*

1. **S. Plumieri,** *L.* Shrubby; leaves fleshy, obovate, quite entire: axils bearded; cymes peduncled; *calyx-limb truncate-repand* or obsoletely denticulate; drupe subglobose.—*Jacq. Amer. Pict. t.* 199. *Desc. Fl.* 7. *t.* 474.—Lobelia, *L.* S. Lobelia, *Sw.* S. Thunbergii, *Eckl.!* S. senegalensis, *Prl.*—2′ high; corolla white, 10‴–8‴ long.—HAB. Bahamas!, *Swains.*, along the seacoast; Jamaica!, *March;* Antigua!, *Wullschl.;* [Haiti to French islands; Mexico; Galapagos!; Senegambia! to the Cape!; Scinde!].

XCVIII. CAMPANULACEÆ.

(Sphenocleaceæ.)

Stamens usually free from the sympetalous corolla: anthers dehiscent in the still closed flower. *Ovary* inferior, syncarpous: ovules usually ∞; stigmas mostly furnished with collecting hairs. *Embryo* straight, included in albumen.—Leaves *alternate, exstipulate.*

1. PONGATIUM, *Rheede.*

Calyx broadly sessile: lobes rounded, inflexed. *Corolla* 5-partite, imbricative. *Anthers* epipetalous, sessile, didymous. *Style* short: stigma emarginate-capitate, devoid of collecting hairs. *Capsule* 2-celled, circumscissile: cells many-seeded.—A glabrous annual; flowers *small, white, in compact, peduncled spikes.*

The connection of this anomalous genus with *Campanulaceæ,* though disagreeing in most typical characters of the Order, is evident from the early dehiscent anthers and the similar capsules and seeds: in habit and inflorescence it may be compared with *Phyteuma.*

1. **P. indicum,** *Lam.*—Sphenoclea Pongatium, *A. DC.*—1′-3′ high, few-branched; leaves elliptical-lanceolate, quite entire, petioled; spikes cylindrical with a conical point, 2″ long; seeds minute, cylindrical, smooth: embryo axile.—HAB. Trinidad!, *Lockh.*, *Cr.*, in moist places and savannahs; [Mexico to Brazil!; trop. Africa! to Egypt!; East Indies!].

XCIX. PLANTAGINEÆ.

Flowers apetalous, involucellate, mostly in spikes. *Stamens* inserted into the scarious calyx (usually called coralla), rarely hypogynous. *Stigma* with collecting hairs. *Ovary* superior, 2(–4)-celled, rarely simple. *Embryo* straight, included in albumen.—Herbs; leaves *exstipulate, usually rosulate at the base of a simple scape.*

PLANTAGO, *L.*

Calyx 4-fid, supported by a 4-leaved involucel. *Stamens* 4(–2). *Ovary* 2(–4)-celled: ovules peltate. *Capsule* circumscissile.

1. **P. major,** *L.* Perennial; leaves ovate, long-petioled, palmatinerved, nearly equalling the scape; spike cylindrical; involucel-leaves equal, blunt; calyx-lobes spreading, ovate or lanceolate; *capsule-cells* 4–12-*seeded:* seeds convex on the placentar, flat on the outer side.

β. *tropica.* Leaves dentate towards the base; spike elongated, interrupted at the base; calyx-lobes lanceolate, pointed; capsule 24–16-seeded.—P. major, β asiatica, *Decaisne.* P. asiatica, *L. sec. Decaisne* (*non Ledeb.*).

HAB. β. Jamaica!, *Wullschl.*, Manchester; [S. Thomas!, Brazil; East Indies to Southern China; α. and other forms in all continents].

2. **P. virginica,** *L.* Annual, hairy; leaves spathulate or obovate-oblong, 3–5-nerved, remotely denticulate; spike cylindrical, often interrupted at the base; involucel-leaves unequal, 2 posterior roundish; calyx-lobes erect in the fertile flowers, lanceolate; *capsule-cells* 1-*seeded:* seeds concave on the placentar, convex on the outer side.—Scape 9″–2″ high, much longer than the leaves; flowers dimorphous, the fertile with included filaments.—HAB. Jamaica!, *Wils.*, in the mountains of S. Andrews, at 4000′ alt.; [Canada to Chiloe].

C. PLUMBAGINEÆ.

Calyx mostly scarious. *Stamens* 5, hypogynous, bearing above their base a dorsal, petaline appendage, or surrounded by and opposite to the lobes of a crown (the corolla). *Ovary* simple: styles or style-branches 5: ovule single, hanging from a central cord. *Embryo* mostly included in amylaceous albumen.—Leaves *exstipulate, often rosulate.*

1. STATICE, *L.*

Calyx 5(–10)-lobed. *Petaline* appendages usually distinct. *Styles* subdistinct, glabrous: stigmas cylindrical. *Pericarp* membranaceous, indehiscent or circumscissile at the summit. —Leaves *usually rosulate;* flowers *glomerate or single: the glomerules or flowers supported by* 3 *distichous bracts, usually in unilateral or distichous compound spikes.*

Sect. LIMONIUM, *Boiss.*—*Petaline appendages distinct nearly to the base, purple or blue. Achenium irregularly rumpent at the base.*

1. **S. bahamensis,** *Gr.* (*n. sp.*). Glabrous, rough with lepidote dots; leaves spathulate, tapering into the petiole, mucronate, early marcescent; scape much branched below: most inferior branches sterile, at length angular: scales deltoid-subulate, rusty, white on the margin; *glomerules* 3–2-flowered, *densely approximate, in unilateral, recurved,* subcorymbose spikes: *inferior bract* ovate, blunt, *rusty-coriaceous,* with a white, membranaceous margin, *superior* 2–3 times longer, oblong, blunt, *herbaceous with a broad, white, membranaceous border;* calyx-tube pilose: lobes white, subdistant, deltoid; *anther-cells pointed at the base.*—Habit and many characters of *S. caspia,* W. (*bellidifolia Gouan,* DC.),

but sterile branches shorter, and the superior bract of different structure. Spithameous; spikes 8‴–4‴ long; superior bract 1½‴ long: herbaceous back thickish, as broad as the border; calyx 2‴ long: lobes small.—HAB. Bahamas!, *Hjalmars.*, Turk Islands.

2. PLUMBAGO, *L.*

Calyx tubular, 5-dentate, glandular with stipitate glands, 5-costate: angles herbaceous. *Corolla* salver-shaped: limb 5-partite. *Style* with 5 filiform branches. *Pericarp* membranaceous, torn at the base.—Shrubs *or* perennial herbs; leaves *scattered; flowers 3-bracteate, in elongated spiciform racemes:* pedicels *very short.*

2. **P. scandens,** *L.* Shrubby, trailing, glabrous; leaves ovate- or oblong-lanceolate, acuminate or pointed, petioled; calyx-tube glandular on its convex angles to the base, half as long as the filiform corolla-tube; corolla-lobes mucronate.—*Sl. t.* 133. f. 1. *Jacq. Amer. Pict. t.* 23. *Desc. Fl.* 3. *t.* 172.—Corolla white, tube 8‴–10‴ long.—HAB. Jamaica!, *Macf.*, *Bancr.*, in hedges; S. Kitts!, *Els.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Mexico! to Brazil! and Chili; Galapagos!].

CI. PRIMULACEÆ.

Stamens inserted into the sympetalous (rarely polypetalous) corolla, opposite to its lobes (or alternate to the calyx). *Ovary* mostly superior, 1-celled; ovules peltate upon a free central placenta, mostly hemianatropous; style simple. *Pericarp* capsular. *Embryo* small, included in fleshy albumen.—Herbs; leaves *exstipulate.*

1. CENTUNCULUS, *L.*

Calyx 4–5-partite. *Corolla* rotate-infundibular, imbricative, marcescent. *Filaments* dilated at the base, glabrous. *Capsule* globose, circumscissile.—Small, annual, glabrous herbs; leaves *minute, subentire, alternate, or lowest opposite;* flowers *axillary:* corolla *included.*

1. **C. pentandrus,** *R. Br.* Leaves ovate or ovate-roundish, subacute; *flowers pedicellate; corolla 5-partite;* filaments glandular at the base.—*Wight, Ic. t.* 1585.—Anagallis pumila, *Sw.* Micropyxis, *Dub.* M. tenella, *Wight* (Centunculus, *Dub.*).—2″–3″ high; leaves 2‴, pedicels usually 3‴, calyx 1‴ long; corolla white, purplish at the base.—HAB. Jamaica (*Sw.*), in boggy hills, Clarendon; [Mexico!, Venezuela!, Brazil!, trop. Australia!; East Indies!].

CII. LENTIBULARIEÆ.

Character of *Primulaceæ*, but *corolla* 2-lipped, 2 stamens with confluent anther-cells, ovules anatropous, and seeds exalbuminous, the embryo often undivided.—Herbs, aquatic or growing in wet places; flowers *on scapes.*

1. UTRICULARIA, *L.*

Calyx 2-partite: segments entire, or the inferior emarginate. *Corolla* spurred, usually personate.—Flowers *in racemes or single.*

§ 1. *Leaves entire; root-fibres furnished with little bladders, several of them thickened into tubers.*—Epiphytical scapes (*Orchidioides*, A. DC.).

1. **U. montana,** *Jacq.* Rigid; tubers ovoid-oblong: root-bladders minutely globose, distant, long-stipitate; scape 1–3-flowered; *leaves* lateral, geminate (or 3–1), *lanceolate-oblong*, lanceolate or ovate-lanceolate, tapering into a long petiole, bluntish, reticulated; *flowers large*, whitish; calyx-segments scariose, many-nerved, broadly ovate, obtusate, half as long as the corolla; corolla-lips subentire, flat, roundish or broadly obovate, inferior twice as large, nearly as long as the ascending incurved-subulate spur.—*Jacq. Amer. Pict. t.* 8.—U. alpina, *L.* U. grandiflora, *Pers.* U. unifolia, *R. P.*—4″–12″ high; leaves 3″–1½″, flowers 1⅓″–1″ long; scape-scales minutely lanceolate, distant, bracts geminate (1–3); seeds fusiform: embryo undivided.—HAB. Montserrat, Dominica!, *Imr.;* S. Vincent!, *Guild.;*

Grenada, Trinidad!, *Pd.*, *Cr.*; epiphytical on mountain-trees, among mosses, at 2800′ alt.; [French islands; Darien, Venezuela!, Guiana!, New Granada!, Peru!].

§ 2. *Leaves entire or disappearing; root-fibres thin, often furnished with little bladders.*—Terrestrial scapes (*Oligocysta*, A. DC.).

2. **U. amethystina,** *St. Hil.* Scape filiform: *scales* minute, distant, *exauriculate* at the base; *leaves* few, rosular, small, *obovate* or roundish, petioled; raceme lax, few-flowered: pedicels capillary, distant, spreading-erect: *bracts* 2–3-fid; calyx-segments roundish, entire; *corolla* small, variegated: upper lip entire, inferior slightly 3-lobed or subentire, *exceeded by the conical-cylindrical,* bluntish, or pointed *spur.*—*Mart. Fl. Bras.* 9. *t.* 21. *f.* 1, *t.* 22. *f.* 6: larger-flowered, and with larger ovate-roundish leaves.—U. modesta, *A. DC.!* (*in Pl. Pœpp.*). U. globularifolia, *var.* minor, *Benjam.!* (*in Pl. Kegel.*): I see no specific difference in Salzmann's original *U. amethystina.* Several other forms are probably likewise identical, *e.g.* U. obovata, *Miq.*, U. spathulata, *Splitg.*, U. versicolor, *Benjam.*—Root-fibres at length stoloniferous: bladders rare, minutely globose, subsessile; stem 4″–12″ high, leaves 2‴–3‴, pedicels 6‴, inferior lip 1‴, spur $1\frac{1}{2}$‴–2‴ long; flowers blue with yellow, or whitish-blue.—HAB. Dominica!, *Imr.*; [Venezuela, Guiana!, Brazil!].

3. **U. pusilla,** *V.* Scape capillary: *scales* and bracts *auricled* at the base, minute, distant; *leaves* few, rosular, *very small, obovate* or oval, shortly petioled, often none; raceme few(-1)-flowered, flexuose: pedicels capillary, spreading-erect: *bracts undivided,* single; calyx-segments elliptical-roundish; *corolla* small, "yellow:" upper lip subentire, inferior 3-lobed, *half as long as the conical-subulate* ascending *spur.*—*U. leptantha*, Benj. ex descr.—Root fibrous: bladders minute, stipitate; stem 1″–$3\frac{1}{2}$″ high, leaves 1‴–2‴, pedicels 2‴, inferior lip 1‴, spur 2‴ long.—HAB. Jamaica!, *Al.*, in muddy places, S. Anns; Trinidad!, *Cr.*; [Guiana, Brazil].

4. **U. subulata,** *L.* Scape capillary: *scales* and bracts *auricled* at the base, minute, distant; *leaves* very small, spathulate-linear, *usually none;* raceme few-flowered, flexuose: pedicels capillary, spreading: *bracts undivided,* single; calyx-segments elliptical; *corolla* small, "yellow:" upper lip entire, inferior slightly 3-lobed, *nearly as long as* or longer than *the conical-subulate, bluntish spur.*—U. nervosa, *Benjam. in Pl. Kegel.!*; a low form, with more approximate pedicels: the same was collected by Crueger and by Spruce: leaves and bladders on the root-fibres exist in Kegel's plant: the figure of *U. nervosa* in Mart. Fl. Bras. has larger flowers.—Root fibrous: bladders minute, rare, often wanting; stem 8″–1″ high; pedicels 2‴–3‴, spur 2‴ long.—Trinidad!, *Cr.*; [United States! to Brazil!].

5. **U. angustifolia,** *Benjam.!* Scape slender, filiform, somewhat rigid, flexuose: *scales* and bracts *exauriculate,* minute, very distant; *leaves long, grass-like, linear,* tapering towards the petiole, disappearing; raceme elongated, 2–6-flowered; pedicels very distant, capillary, spreading: *bracts cut into setaceous segments;* calyx-segments ovate-roundish; *corolla* small: upper lip entire, inferior subentire, *nearly as long as the conical-subulate, subincurved, pointed spur.*—Root fibrous: bladders "none;" stems 1′–2′ high, often several from the same root; leaves subsolitary, 4″–7″(-1″) long, $1\frac{1}{4}$‴ broad; pedicels 6‴–2‴, spur 3‴ long; corolla pale-blue (*Cr.*), yellow (*Kegel*).—HAB. Trinidad!, *Pd.*, *Cr.*, in moist, sandy savannahs, Arima, Omeara, Aripo; [Guiana!].

§ 3. *Leaves capillary-dissected, swimming by means of the bladders; roots none.*—Peduncles (scapes) emersed (*Lentibularia*, A. DC.).

6. **U. obtusa,** *Sw.* Leaves whorled along submersed interwoven stems, and at the base of the scapes: bladders obliquely subglobose, scattered on their capillary segments; scape filiform, devoid of scales; raceme lax, few-flowered: *bracts* sheathing, truncate-roundish, single, *exauriculate*: pedicels distant, spreading, as long as the internodes; calyx-segments roundish; *corolla* small, *yellow*. lips entire or inferior subentire, nearly as long or *little exceeded by the subulate, bluntish, incurved spur.*—Scape 6″–2″, pedicels 4‴–6‴, spur 2‴ long.—HAB. Jamaica!, *M'Nab, Wils., Wullschl.*, in rivulets; Trinidad!, *Cr.*; [Cuba and Mexico to Brazil].

7. **U. myriocysta,** *St. Hil.* Leaves whorled along the immersed floating stem, and at the base of the scape: bladders subglobose, numerous on their capillary segments; scapes

2–1-flowered, flaccid, devoid of scales: bracts sheathing, subtruncate, single, *auricled* at the base; calyx-segments ovate, rounded; *corolla pink:* upper lip entire, inferior 3-lobed, *nearly as long as the conical-cylindrical, bluntish, straight spur.—Mart. Fl. Bras.* 9. *t.* 20. *f.* 2, *t.* 22. *f.* 1.—U. palatina, *Web.*—Scape $5''$–$2''$, corolla $6'''$–$4'''$ long.—Hab. Trinidad !, *Pd.*, *Cr.*, in ditches of savannahs, Aripo; [Guiana, Brazil].

8. **U. coccinea,** *Benjam.* Leaves alternate along the immersed floating stem: bladders obliquely subglobose, scattered on their capillary segments; scapes short, 1–2-flowered, devoid of scales: *bracts* sheathing, blunt, single, *exauriculate;* calyx-segments roundish; *corolla* small, "*crimson:*" lips entire, *nearly as long as the straightish blunt spur.*—Scapes $1''$–$2''$, corolla $1\frac{1}{2}'''$ long.—Hab. Trinidad !, *Pd.*; [Venezuela].

9. **U. foliosa,** *L.* Leaves alternate along the immersed floating branches: bladders on their capillary segments, scarce, minutely globose; *scapes* stout, *many-flowered, bearing* 1–2 *scales below the lax raceme:* bracts sheathing, blunt, single, exauriculate; calyx-segments roundish; *corolla yellow:* lips subentire, a little longer than the conical-cylindrical, pointed spur.—U. oligosperma, *St. Hil.*—Scape $8''$–$10''$ long; corolla $4'''$–$6'''$ diam.—Hab. Trinidad !, *Pd.*; [Venezuela to Brazil !].

2. PINGUICULA, *L.*

Calyx 2-lipped: the superior lip 3-, the inferior 2-fid or -partite. *Corolla* spurred.—Leaves *rosulate;* scapes 1-*flowered.*

10. **P. elongata,** *Benjam.* Pilose; leaves linear-lanceolate, acuminate; calyx-lobes oblong-lanceolate; corolla violet: tube broadly cylindrical, lobes broadly ovate, blunt: spur very short, bluntly cylindrical.—Leaves $4''$–$12''$ long, $1\frac{1}{2}'''$–$3'''$ broad, about as long as the scape; corolla $8'''$–$10'''$, spur $1'''$–$2'''$ long.—Hab. Jamaica !, *Pd.*

CIII. MYRSINEÆ.

Character of *Primulaceæ*, but stem woody and pericarp fleshy.—Fruit *globose, usually small.*

Resinous, oblong or roundish spots occur frequently on the drupes, leaves, and flowers. The orange-coloured berries of *Jacquinia armillaris*, used as a toy, are said to be poisonous.

1. MYRSINE, *L.*

Flowers polygamous. *Calyx* 4–5-fid. *Corolla* 4–5-partite: segments imbricative or valvate. *Anthers* ovate-oblong, longitudinally dehiscent: filaments short. *Stigma* lobed. *Drupe* 1-seeded by abortion.—Leaves *alternate;* flowers *clustered: clusters in the axils or lateral.*

Sect. 1. Manglilla, *Jacq.—Corolla valvate.*

1. **M. læta,** *A. DC.* Branches rusty-puberulous, at length glabrate; *leaves chartaceous, lanceolate* or lanceolate-elliptical, usually bluntish, quite entire, subrevolute at the margin, glabrous or glabrescent, dotted beneath, *devoid of pellucid dots; clusters subsessile:* flowers shortly pedicellate or subsessile; calyx 5–4-fid.—Samara, *L.* (*exclus. synon.*), *Sw. Obs.* M. salicifolia, Berterii, floridana, trinitatis, *A. DC.* M. coriacea, *Sieb. Trin.* 50 ! (*non R. Br.*) M. myricoides, *Schlecht.:* a form with the young leaves rusty-downy beneath. M. flocculosa, *Mart. Fl. Bras.* 16. *t.* 58 (M. rufescens, *A. DC.*).—A tree; leaves variable, $3''$–$1\frac{1}{2}''$($-4''$) long, $8'''$–$6'''$($14'''$) broad; pedicels usually much shorter than the drupe; drupe $1'''$–$1\frac{1}{2}'''$ diam.—Hab. Jamaica !, all coll., in the mountains; Dominica !, *Imr.*; Trinidad !, *Sieb.*; [Cuba !, Guadeloupe !, Florida and Mexico !, to Brazil ! and Peru !].

Sect. 2. Eumyrsine.—*Corolla imbricative.*

2. **M. coriacea,** *R. Br.* Glabrous; *leaves leathery,* lanceolate, *lanceolate-oblong,* or obovate-oblong, usually bluntish, quite entire, polished, subrevolute at the margin, *dotted with pellucid points and numerous lines; clusters stalked,* usually lateral: stalk (or abor-

tive branchlet) often as long as the drupes, covered with imbricated scales: flowers subsessile; calyx 5–4-fid.—M. cubana, *A. DC.*, ex descr.—Leaves variable, 4″–2″(–1¼″) long, 12‴–9‴ (–16‴) broad; clusters equalling the petioles; drupe 2‴–1½‴ diam.—Hab. Jamaica!, *March*, in mountain-woods of the southern districts; Dominica!, *Imr.*; [Cuba; Panama!].

3. **M. floribunda,** *R. Br.* Glabrous; *leaves leathery, obovate,* rounded or emarginate at the top, quite entire, revolute at the margin, shining above, rusty and dotted beneath, *devoid of pellucid dots; clusters* stalked, lateral: stalk covered with imbricated scales, shorter than the cluster: flowers sessile; calyx 5-fid.—*Mart. Fl. Bras.* 16. *t.* 50–52.—Samara, *W.* S. pentandra, *Sw.* Rapanea guianensis, *Aubl.* Caballeria coriacea, *Mey.!* M. Rapanea, *R. S.*—A large tree or reduced to a shrub (*Schomb.*); leaves 4″–3″(–5″–2″) long, 2″–1½″(–1″) broad; drupe 1‴ diam.—Hab. Trinidad!, *Sieb. Trin.* 49, *Cr.*, in the mountains of S. Anns; [Haiti!, Guiana!, Brazil! to Uruguay].

2. GRAMMADENIA, *Benth.*

Calyx 5(–"6")-partite. *Corolla* 5(–"6")-fid or -partite, imbricative. *Stamens* connected into an adnate annular base: anthers subglobose, opening above by a short oblique slit: filaments short. *Style* short, blunt. *Drupe* 1-seeded by abortion.—Glabrous shrubs; leaves *sessile, alternate, dotted with linear glands beneath, quite entire*; flowers *in axillary, short, slender racemes, furnished with linear glands.*

4. **G. parasitica,** *Gr.* Leaves chartaceous, obversely lanceolate, shortly acuminate, margined: *linear dots serial* from the midrib to the margin; racemes one-third or half as long as the leaves, 10–11-*flowered*: pedicels twice as long as the bractlet; corolla deeply 5-fid.—Ardisia, *Sw.!*—A branched shrub, growing on trees; leaves 3½″–2″ long, 8‴–6‴ broad: linear dots black; corolla 1‴ broad, dotted near the midribs, the blunt calyx likewise.—Hab. Dominica!, *Sw.*, *Imr.*, in the upper region of the Couliabon; S. Vincent!, *Guild.*; [Guadeloupe!].

3. CONOMORPHA, *A. DC.*

Calyx 4(–5)-fid. *Corolla* 4(–5)-fid or -partite, imbricative. *Stamens* connected into an annular adnate base: anthers oblong or ovoid, recurved at the top, opening by a longitudinal slit. *Style* blunt. *Drupe* 1-seeded by abortion.—Glabrous shrubs; leaves *petioled, alternate, quite entire, dotted with points*; flowers *in axillary racemes.*

The principal character, viz. the recurved anthers, is common to this and *Wallenia.* The imbricative æstivation of the corolla has been verified in *C. laxiflora* and four other species: from the mistake of its being valvate, first occurring in Endlicher's genera, Miquel has transferred several true *Conomorphæ* to *Cybianthus*, while in the figures added to his paper (Fl. Bras. 16. t. 48. 49) the æstivation is imbricative, except in *C. macrophylla*, Mart., which from its figure (t. 47) probably is no congener.

5. **C. peruviana,** *A. DC.!* Branchlets rusty-leprous; *leaves* oval or obovate-oblong, *abruptly terminated by a narrow point,* black-dotted beneath; racemes rusty-leprous, simple, exceeded by the leaves: pedicels usually longer than the bractlet: corolla 4-partite: segments elliptical, pointed; anthers oblong.—*Miq. Surin. t.* 34.—C. multipuncta, *Miq.* (Cybianthus, *A. DC.*). Cyb. peruvianus, *Miq.*—Leaves 3″–2″ long, 16‴–12‴ broad: petiole 4‴–3‴, racemes 2″–1″, pedicels 2‴–½‴, corolla 1‴ long.—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Venezuela!, Guiana!, Peru!].

4. CYBIANTHUS, *Mart.*

Calyx 4-partite. *Corolla* 4-fid or 4-partite, imbricative. *Stamens* distinct: anthers ovoid or subglobose, opening above by a short slit: filaments short or none. *Stigma* blunt or capitate. *Drupe* 1-seeded by abortion.—Glabrous shrubs *or* small trees; leaves *petioled, alternate, quite entire, dotted with points*; flowers *in axillary racemes.*

6. **C. cuspidatus,** *Miq.* Leaves chartaceous, obovate-oblong, pointleted, often somewhat oblique, arch-veined, granulate above, pale and black-dotted beneath; racemes simple, slender, half as long as the leaf: pedicels as long as the drupe; "corolla 4-fid; anthers oval:

filaments conspicuous."—A shrub; leaves 7″–3″ long, 2¼″–1¾″ broad: petiole 4‴–8‴, racemes 3″, pedicels 1½″ long.—HAB. Trinidad!, *Cr.*, at Tocuche; [Venezuela!].

5. WEIGELTIA, *A. DC.*

Calyx 4-partite. *Corolla* 4-partite or 4-fid, imbricative. *Stamens* connected into an annular adnate base: anthers ovoid, opening by a longitudinal slit: filaments usually longer than the anther, incurved. *Style* slender: stigma minute. *Drupe* 1-seeded.—Glabrous trees *or* shrubs; leaves *of* Cybianthus; flowers *in axillary compound racemes.*

7. **W. myrianthos,** *A. DC.* Branchlets rusty-leprous; leaves chartaceous, lanceolate-oblong or elliptical-oblong, pointed, tapering into the petiole, arch-veined, pale-rusty beneath, exceeding the panicles: special racemes short: pedicels approximate, shorter than the bud; *corolla 4-partite,* dotted; *filaments longer than the anther.—Mart. Fl. Bras.* 16. *t.* 44.—Cybianthus, *Miq.* Weigeltia capitellata, *Miq.!* Salvadora surinamensis, *Spreng.!*—A tree, 20′–30′ high; leaves 9″–5″ long, 2½″–2″ broad; corolla pale-blue, 1‴ broad.—HAB. Trinidad!, *Cr.*, in savannahs, Arima; [Guiana!, Brazil].

6. WALLENIA, *Sw.*

Flowers polygamous. *Calyx* 4-fid. *Corolla* tubular, shortly 4-lobed· lobes erect, blunt, dextrorsely contorted, or one lobe exterior. *Stamens* distinct (or connected in the bud), inserted into the base of the corolla-tube: anthers oblong, recurved, opening by two longitudinal slits: filaments elongated, exserted. *Style* slender: stigma minute. *Drupe* 1-seeded by abortion.—Glabrous trees *or* shrubs; leaves *leathery, petioled, alternate or approximate in pairs or whorls, subentire;* panicle *terminal, formed of twice compound corymbs.*

8. **W. laurifolia,** *Sw.* Arborescent; *leaves* large, *elliptical-oblong,* blunt, rounded or bluntish at the base, obscurely pellucid-dotted, often subopposite, the uppermost exceeding the panicle: *petiole thick, channelled, distinct from the lamina;* calyx papillose.—*Sw. Fl. t.* 6. *fig. sup.: analyt.*, corolla too long. *Jacq. Schœnbr. t.* 30.—W. angulata, *Jacq.:* stalks of the calyx-papillæ too long.—A small tree; leaves 8″–6″ long, 3½″–2½″ broad, slightly striated by numerous, delicate, costate veins: petiole 2″–6″ long; panicle subsessile; corolla yellowish, 2‴ long, twice as long as the calyx; drupe 1½‴ diam., furnished with oblong glands.—HAB. Jamaica!, all coll., in the mountains, S. Thomas i. E., S. Anns [Cuba!, Haiti!].

9. **W. clusiifolia,** *Gr.* Shrubby; *leaves lanceolate-oblong* or spathulate-oblong, blunt, *tapering into the flattish petiole,* opaque, dotless, *polished,* the uppermost twice as long as the sessile panicle; calyx-tube glabrous.—W. laurifolia, *Balb. in Pl. Bertero!*—A stout shrub; leaves thicker than in the preceding, nearly veinless, 4″–3″ long, 20‴–12‴ broad: petiole 4‴–3‴ long; flowers and drupes of the preceding: corolla 2‴ long, 4-lobed to ¼.—HAB. Jamaica!, *Macf.*, *Pd.*, in the mountains; [Cuba!].

10. **W. venosa,** *Gr.* (*n. sp.*). *Leaves obovate* or oval-oblong, blunt, *tapering into the thickish, slightly channelled petiole,* black-dotted chiefly beneath, opaque, *arch-veined, with the veins prominent on both sides;* panicle sessile, much exceeded by the uppermost leaves; calyx-tube glabrous.—Habit of *Ardisia latipes,* Mart., and of Sl. t. 145. f. 2, quoted by Sw. as *Wall. laurifolia,* but which, being a climber, is probably neither.—A shrub or small tree (*Wils.*); leaves as thick as in the preceding, from which I formerly not distinguished it, 6″–1½″ long long, 2½″–10‴ broad: petiole 8‴–1‴, long, 1‴ broad; panicle 1″–2″ diam.: bracts at its primary ramifications oblong-linear, blunt, 2‴ long, deciduous; corolla bronze-coloured (*Wils.*), 2‴ long, twice as long as the calyx: stamens shortly exserted, connected in the bud; ovules 4–5, peltate.—HAB. Jamaica!, *Al.*, *M'Nab*, *Wils.*, in the Blue Mountains.

7. ARDISIA, *Sw.*, *Miq.*

Calyx 5–4-fid or -partite. *Corolla* 5–4-partite, rotate: segments dextrorsely contorted or contorted-imbricative, rarely valvate. *Stamens* distinct, inserted into the corolla-tube: anthers straight, cordate at the base: slit longitudinal or partially closed. *Stigma* minute, or capitate. *Drupe* 1-seeded by abortion.—Flowers *mostly paniculate, in compound racemes, corymbs, or corymbose umbels.*

Sect. 1. BADULA, *Juss.*—*Corolla contorted. Anthers oblong, devoid of a terminal mucro: cells parallel, introrse, opening by a longitudinal slit. Style filiform: stigma usually capitate. Placenta "few-ovulate."*—*Bracts* deciduous.

11. **A. laurifolia,** *Juss.* Glabrous; leaves leathery, lanceolate-oblong or elliptical, with a bluntish point, tapering into the margined petiole, slightly dotted beneath, quite entire: veins costate, numerous, reticulated beneath; *panicles axillary*, subsessile, corymbiform, racemiform, or reduced to a simple raceme, twice or much exceeded by the leaf; corolla 5-partite: segments obovate-oblong, about twice as long as the calyx; *anthers oblong*, blunt, *as long as the filament;* style *included: stigma minute;* placenta few-ovulate.—A. lateriflora (*non Sw.*) v. latifolia, *Sieb. Mart.* 296, *ex parte!* (*non Sieb. Maurit.*). Badula Lamarckiana, *A. DC.* B. lateriflora, *Pl. Carib.* (*exclus. syn. Sw.*)—A "tree;" leaves 7″–5″ long, 2¼″–1½″ broad; corolla-segments reflexed, 1‴ long; drupe 3‴ diam.—HAB. Dominica!, *Imr.; Trinidad!, *Lockh.;* [Guadeloupe!, in moist woods; Martinique!]

12. **A. caribæa,** *Miq.* Glabrous; leaves chartaceous or at length leathery, elliptical or obovate-oblong, mucronate or bluntish, contracted at the base into a stout margined petiole, repand-entire: veins costate, numerous, reticulated beneath; *panicles axillary* or lateral, subsessile, corymbiform, terminated by umbels, twice or much exceeded by the leaf; corolla 5-partite: segments spathulate, 2–3 times as long as the calyx; *anthers oblong,* blunt, *little longer than the filament; style exserted,* equalling the stamens: *stigma capitate;* placenta few-ovulate.—Badula, *A. DC.*—A "tree;" leaves black in drying, 8″–4″ long, 4″–2½″ broad; corolla-segments reflexed, 1‴ long; drupe 2‴ diam.—HAB. Dominica!, *Imr.*, S. Vincent; Trinidad!, *Lockh.*, on the coast; [Guadeloupe!].

Sect. 2. ANARDISIA.—*Corolla contorted. Anthers minutely subglobose, devoid of a terminal mucro: cells oblique, opening by a longitudinal lateral slit. Style shortly filiform: stigma minute, truncate.*—*Bracts* deciduous.

13. **A. xylosteoides,** *Gr.* (*n. sp.*). Glabrous; leaves chartaceous, elliptical or elliptical-oblong, blunt at both ends, petioled, repand-entire: veins distant, delicate; *panicles* short, *terminal,* corymbose, subsessile: pedicels umbellate, thrice as long as the drupe; *calyx* 4-*lobed,* adpressed to the drupe: lobes roundish, entire; corolla-segments roundish, nearly as long as the calyx; *anthers minute, much shorter than the filament.*—Leaves blackish in drying, 2″–3″ long, 14‴–20‴ broad, with scattered dots beneath: petiole flat-convex, 2‴–3‴ long; panicle 2″–1″ diam.: pedicels 3–4-nate, 3‴–4‴ long; calyx ½‴, filaments ¾‴, style ⅔‴ long; corolla dotted; drupe 1‴ diam.—HAB. Jamaica!, *Al.*, S. Anns near Moneague; [Haiti!; Mexico!, New Granada!].

Sect. 3. ICACOREA, *Aubl.*—*Corolla contorted. Anthers oblong or oblong-lanceolate, devoid of a terminal mucro: cells opening by a terminal pore (or at length by a slit). Style filiform: stigma minute. Placenta "6–pluriovulate."*—*Bracts* deciduous.

14. **A. acuminata,** *W.* Glabrous; branches rusty-leprous: leaves chartaceous, elliptical-oblong or lanceolate-oblong, pointleted, crenulate or subentire, black-dotted and rusty beneath, petioled: veins costate; *panicles terminal: pedicels umbellate;* calyx 4(–5)-lobed: lobes ovate, subacute; corolla-segments oblong, twice as long as the calyx; *anthers oblong-lanceolate, emarginate, thrice as long as the filament.*—*Mart. Fl. Bras.* 16. *t.* 28. 29.—Icacorea guianensis, *Aubl.* Ard. semicrenata, *Mart.*—A shrub: leaves usually 3″ long, 1½″–1″ broad; panicle shorter than the leaves: branches diverging; corolla pale-red, 1½‴–2‴ long. —HAB. Trinidad!, *Cr.*, Maraccas; [Venezuela to Brazil].

15. **A. decipiens,** *A. DC.* Branchlets rusty-puberulous, glabrescent; leaves chartaceous, elliptical-oblong, cuneate at the base, pointleted, crenulate or subentire, nearly devoid of dots, often rusty beneath: veins costate; *panicles terminal: pedicels umbellate;* calyx 5-lobed: lobes ovate, blunt; corolla-segments oblong, twice as long as the calyx; *anthers oblong-lanceolate, tapering above, bluntish,* 4 times as long as the filament.—Myrsine ardisioides, *Kth.*—Nearly allied to the preceding, but anthers longer and gradually tapering from the base. Leaves 6″–3″ long, 2″–1″ broad; panicle spreading; corolla 2‴ long; drupe 2‴ diam.—HAB. Trinidad!, *Cr.*, Port of Spain, La Ventilla; [Panama!].

Sect. 4. Euardisia, *Endl.*—*Corolla contorted. Anthers connivent, mucronate, or pointed: cells converging, opening laterally by a slit or pore. Stigma minute. Placenta* "*6–many ovulate.*"

* *Pedicels umbellate, or corymbose.*

16. **A. clusioides,** *Gr.* (*n. sp.*). Glabrous; leaves large, leathery, opposite or approximate in pairs or whorls, obovate-oblong or elliptical-oblong, blunt or rounded at both ends, quite entire, dotless, subsessile or shortly petioled with a thick channelled petiole: midrib thick, veins costate, delicate; *panicle terminal,* subsessile, *very compound: pedicel umbellate, shorter than the drupe; calyx* ovoid, 4-*lobed:* lobes oval-roundish; corolla-segments small, oval-oblong; *anthers conical, mucronulate,* opening by longitudinal slits, *much longer than the very short filament;* style thickish-filiform.—Leaves 10″–5″ long, 5″–2″ broad, somewhat rusty in drying: petiole 4‴–½‴ long, 3‴–2‴ thick; panicle roundish, 3″ diam., with large bracts at the base, 4 times divided: pedicels ebracteate, 1‴ long; flowers polygamous; calyx 1‴ long; corolla (still included) contorted-imbricative, 4-lobed to two-thirds: stamens inserted into its tube; pistil reduced to a style in ♂; drupe glandular, 2‴ diam., seed globose, entire at the base: albumen cartilaginous: embryo cylindrical, transverse.—Hab. Jamaica!, *Al., Pd., March;* S. Anns, at Moneague, Westmoreland, in the mountains; Dominica!, *Imr.*

17*. **A. humilis,** *V.* Glabrous; leaves chartaceous or membranaceous, obovate-oblong, or elliptical-oblong, pointed, quite entire, tapering at the subsessile or petioled base, black-dotted beneath; *corymbs nearly simple,* most axillary: pedicels long, spreading; *calyx* 5(–4)-*partite:* segments oval-roundish; corolla-segments ovate, pointed, twice as long as the calyx; *anthers large, tapering from the cordate base, pointed,* opening by longitudinal slits, *subsessile;* style subuliform.—*Wight, Ic. t.* 1212.—A. solanacea, *Roxb.*—A shrub; leaves 6″–4″, pedicels 8‴–4‴, calyx 2‴, anthers 2‴ long.—Hab. Naturalized in Jamaica!, *March,* near Bath; [introduced from the East Indies].

** *Pedicels racemose-paniculate.*

18. **A. guadalupensis,** *Duchass.* Glabrous; leaves leathery, elliptical-oblong, bluntish, tapering into the petiole, quite entire or repand, dotted: veins delicate; panicle terminal, dense, pyramidal: *pedicels racemose;* calyx small, contorted, deeply 5-lobed: lobes ovate-roundish; corolla-segments ovate-roundish, twice as long as the cylindrical tube, as long as the calyx; *anthers ovate, rounded-mucronulate, as long as or shorter than the filament, opening by a longitudinal oval slit;* style subuliform.—A. coriacea, *DC*, *ex descr.* β (*non Sw.*). A. latifolia, *Sieb. Mart.* 296! *ex parte.*—A shrub; leaves 5″–4″, pedicels 2‴, calyx 1‴, anthers ⅓‴ long; corolla greenish.—Hab. Dominica!, *Imr.;* [Haiti to French islands!].

19. **A. coriacea,** *Sw.* Glabrous; leaves leathery, elliptical or elliptical-oblong, blunt, quite entire, nearly dotless, petioled: veins delicate; panicle terminal, lax, pyramidal: *pedicels racemose;* calyx slightly contorted, deeply 5-lobed: lobes ovate-roundish, ciliate; corolla-segments ovate-roundish, twice as long as the calyx; *anthers oblong-lanceolate,* minutely mucronulate, or bluntish, *as long as the filament, opening from the summit to the middle by a short slit;* style thickish-filiform, flexuose, subuliform at the top.—*Dict. Sc. Nat. Dicotyl. t.* 64.—A shrub; leaves 4″–2″, pedicels 2‴, calyx 1‴, anthers 1½‴ long; corolla purplish-crimson; drupe 2½‴ diam.—Hab. Jamaica!, *Al., March;* [Panama!].

20. **A. tinifolia,** *Sw.* Glabrous; leaves leathery, elliptical, bluntish, quite entire, pale-dotted beneath, petioled: veins delicate; panicle terminal, lax, pyramidal: *pedicels racemous;* calyx contorted-imbricate, 5-lobed: lobes ovate-roundish, subciliate; corolla-segments ovate-oblong, bluntish, twice as long as the calyx; *anthers oblong-lanceolate,* tapering towards the bluntish, mucronulate top, 4 *times as long as the short filament, opening at the top by an oblong pore;* style thickish-filiform, flexuose, subuliform at the top.—*Sl. t.* 205. *f.* 2.—A middle-sized tree; leaves 4″–2″, pedicels 2‴, calyx 1‴, anthers 2‴ long; corolla pink.—Hab. Jamaica!, all coll., in arid mountains, S. Thomas i. E., Port Royal, S. Andrews.

A. lateriflora, Sw., from Forsström's specimen in Swartz's collection, is a *Euardisia,* probably found in the Swedish islands: it has oblong, 6″ long leaves, a terminal panicle, with accessory axillary branches, the umbellate pedicels supported by a persistent involucel of minute ovate bractlets, the stamens of *A. tinifolia,* but shorter, 1‴ long, the corolla-

segments oblong, and the calyx $\frac{2}{3}'''$ long.—*A. serrulata*, Sw.!, of Haiti, having a valvate corolla, is a *Parathesis: A. crenulata*, Vent (Choix, t. 5), is the same species.

8. JACQUINIA, *L.*

Calyx 5-partite. *Corolla* 5-fid, rotate-salver-shaped, imbricative, crowned at the throat and between the lobes with 5, roundish appendages. *Stamens* inserted into the corolla-tube: filaments subulate, subconnected at the base: anthers exserted, ovoid or deltoid, mucronulate, extrorse, opening by slits. *Placenta* many-ovulate. *Style* included: stigma capitate. *Berry* leathery, several-seeded.—Shrubs *or* trees; leaves *rigid, margined, quite entire; flowers white or orange, in racemes, umbels, or single.*

21. **J. armillaris,** *L.* Glabrous; *leaves cuneate-spathulate or obovate, blunt* or mucronulate, minutely dotted, revolute at the margin, subsessile, usually whorled; racemes terminal, lax; *corolla white:* tube infundibular, twice as long as the calyx.—*Sl. t.* 190. *f.* 2; *Jacq. Amer. Pict. t.* 56; *Fragm. t.* 94. *f.* 1.—J. revoluta, *Jacq.*—A shrub or tree; leaves $4''$–$1\frac{1}{2}''$ long, $1\frac{1}{2}''$–$6'''$ broad, corolla-tube $3'''$ long, berry $3'''$ diam., orange.

α. Leaves cuneate-spathulate, nearly veinless: nodes thick; racemes few-flowered.—*Mart. Fl. Bras.* 16. *t.* 27. *f.* 3.—Usually shrubby, $4'$–$6'$ high, but sometimes a small tree, $15'$ high (*Sl.*).

β. arborea, V. Leaves obovate or spathulate, more or less veiny beneath: nodes equal; racemes many-flowered.—*Mart. l.c. t.* 27. *f.* 2.—Usually arboreous: trunk $4'$–$30'$ high (*Ryan*); a shrub or small tree (*Wils.*).

Hab. Jamaica!, all coll. (chiefly *β*), on maritime rocks; Antigua!, *Wullschl.* (*α*), Dominica!, *Imr.* (*β*), S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 54, *Lockh.*, on rocky hills; [Haiti to French islands; Eastern Florida! to Venezuela! and Pernambuco!].

22. **J. aristata,** *Jacq.* *Leaves* glabrous, *lanceolate-oblong, tapering into a slender, terminal awn,* dotless, contracted at the subsessile base; racemes terminal, lax, slightly puberulous; *corolla orange:* tube campanulate, shortly exceeding the calyx.—*Jacq. Fragm. t.* 94. *f.* 2.—J. caracasana, *Kth.* J. umbellata, *A. DC.!* J. aurantiaca, *Ait. ex specim. Hortens.*—A shrub, resembling *J. macrocarpa*, Cav., but corolla-tube $3'''$ long, $1'''$ longer than the calyx; leaves $2\frac{1}{2}''$–$1\frac{1}{2}''$ long, $6'''$–$10'''$ broad: awn $1'''$ long.—Hab. Jamaica!, *March*; [Portorico!; Venezuela!, on the seashore].

9. CLAVIJA, *R. P.*

Flowers polygamous. *Calyx* 5(–4)-partite. *Corolla* rotate, imbricative, crowned at the throat with 5–10 roundish appendages. *Stamens* forming an entire tube in ♂, distinct in ♀: anthers extrorse, short, usually truncate, opening by slits. *Placenta* many-ovulate. *Stigma* blunt. *Berry* large, several-seeded.—Trees *without branches, bearing large, rosulate, rigid, glabrous leaves at the extremity of the trunk, and elongated, spiciform racemes in their axils, or in those of former leaves.*

23. **C. ornata,** *Don.* Leaves spathulate-lanceolate, long-tapering towards the shortly petioled base, bluntish, remotely serrate or subentire: teeth spinescent, incurved: veins costate, delicate, minutely reticulated on both sides; racemes flaccid, half or a fourth as long as the leaves: pedicels as long as the scarlet flower.—*Jacq. Schœnbr. t.* 116.—Theophrasta longifolia, *Jacq.*—$20'$–$2'$ high; leaves pale, $1'$–$1\frac{1}{2}'$ long, $3''$ broad: petiole brown, thick, $4'''$–$6'''$ long; corolla $3'''$–$4'''$ diam.—Hab. Trinidad!, *Sir R. Woodford*; [Venezuela!, Guiana!, Brazil].

CIV. SAPOTEÆ.

Stamens inserted into the sympetalous corolla, the fertile mostly opposite to its lobes. *Ovary* superior, syncarpous, 4–12(–2)-celled: ovules single, usually ascending; style simple. *Pericarp* mostly baccate. *Seeds* hard, either exalbuminous with a large oily embryo, or albuminous with foliaceous cotyledons: radicle short, mostly inferior.—Woody plants; leaves *entire, mostly exstipulate; pedicels axillary (or lateral), fascicled (or single).*

A milky juice is nearly universal, and in several instances it affords gutta-percha. The eatable fruits are known as *Naseberries* (*Sapota, Lucuma, Mimusops*), Star-apples (*Chryso-*

phyllum Cainito), and Damson-plums (*Chr. oliviforme*). A bitter substance is contained in the seeds, and the astringent bark of *Sapota* is known as *Cortex jamaicensis*. The valuable timber-trees of this Order are generally named Bullet-trees: *Sapota Sideroxylon* affords one of the best woods of Jamaica, which was exhibited as such at Paris; *Dipholis salicifolia, nigra,* and *montana* are esteemed too in Jamaica, *Bumelia retusa* in Dominica, *Mimusops globosa*, in Trinidad.

1. CHRYSOPHYLLUM, *L.*

Calyx 5(–6)-partite. *Corolla* 5(–7)-lobed. *Stamens* opposite the corolla-lobes, sterile appendages none: anthers laterally dehiscent. *Ovary* 5–10-celled: ovules ascending. *Seeds* albuminous: albumen fleshy.—Leaves *often aurate beneath with a sericeous down.*

1. **C. Cainito,** *L.* *Leaves* oval or oblong, pointleted, *aurate-sericeous* (rarely silvery) *beneath: veins costate, nearly perpendicular to the midrib;* pedicels fascicled, shorter than the petiole; corolla campanulate-infundibular: tube twice as long as the calyx; anthers ovoid: stigma 10–8-crenate; *berry globose,* 10–8-*celled.—Jacq. Amer. Pict. t.* 51; *Tuss. Fl.* 3. *t.* 9; *Desc. Fl.* 2. *t.* 70.—A tree; flowers purplish-white; berry size of an apple, or smaller, greenish, rosy-purple, or blue (*C. cæruleum,* Jacq. l.c. t. 52, *C. argenteum,* Jacq. t. 54).

α. Leaves oval-oblong or oblong, usually 6″–9″ (–3″) long.

β. jamaicense, Jacq. Leaves oval, mucronate, 4″–2″ long; stigma 8-crenate.—*Sl. t.* 229; *Br. Jam. t.* 14. *f.* 2.—This has the leaves of the following species, and would appear to be a transition to it, but its fruit is large, globose, as in *α*.

Hab. Jamaica!, all coll., wild and cultivated (*α*, *β*); S. Kitts!, Antigua!, *Wullschl.*, to Trinidad!, *Sieb. Tr.* 30; [Haiti! and Panama! to Brazil!].

2. **C. oliviforme,** *Lam.* *Leaves* oval, bluntish or mucronate, *aurate-sericeous* or aurate-tomentose *beneath: veins costate, nearly perpendicular to the midrib;* pedicels fascicled shorter than the petiole; corolla campanulate-infundibular; anthers ovoid; stigma 5-crenate; *berry ovoid-oblong,* 1-*seeded by abortion.—Desc. Fl.* 2. *t.* 71; *Bot. Mag. t.* 3303.—A tree, less high than the preceding; leaves 3″–1½″ long, usually 2″ broad; flowers whitish; berry dark-blue or black, 8‴ long.

α. Leaves ferruginous-aurate beneath, bluntish; corolla glabrous: tube twice as long as the calyx.

β. monopyrenum, Sw.! Leaves pale-aurate or ferruginous beneath, mucronate or bluntish; corolla-tube as long as the calyx.

Hab. Bahamas!, *Swains.* (*β*); Jamaica!, *Sw., Pd., Al., March* (*α*, *β*), common; [Cuba!, Haiti!].

3. **C. microphyllum,** *Jacq.* *Leaves* lanceolate-oblong or elliptical-oblong, bluntly pointleted, *aurate-sericeous beneath: veins* delicate, costate, *oblique to the midrib;* pedicels fascicled, as long as the petiole; "corolla-tube exserted; anthers ovoid; ovary 5-celled;" *berry ovoid-oblong,* 1-*seeded by abortion.—Jacq. Amer. Pict. t.* 53.—A shrub, 10′ high (*Jacq.*); leaves 3″–1½″ long, 8‴–16‴ broad; berry 6‴ long.—Hab. Jamaica!, *Wullschl.*, Manchester; Dominica!, *Imr.*, in the mountains; [Cuba].

4. **C. glabrum,** *Jacq.* *Leaves* elliptical-oblong or oblong, bluntly pointleted, slightly sericeous beneath, at length *glabrate: costate veins distant, oblique to the midrib;* pedicels fascicled, shorter than the petiole; corolla campanulate, sericeous: tube twice as long as the calyx; anthers ovoid; stigma 5–6-crenate; *berry ovoid* or obovoid, 1-*seeded by abortion.—Jacq. Amer. Pict. t.* 55.—C. microcarpum, *Sw.!* C. argenteum, *Sieb. Mart.* 71! (*non Jacq.*). —A tree; leaves 5″–2″ long; berry 8‴–6‴ long, dark-blue.—Hab. Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 353, *Cr.*; [Cuba! to Guiana!].

2. SAPOTA, *Plum.*

Calyx 6–5-leaved or -partite, imbricative. *Corolla* campanulate, 6–5-lobed. *Stamens* opposite the corolla-lobes, alternating with as many sterile appendages. *Ovary* 12–4-celled: ovules ascending. *Seeds* albuminous: hilum separating from the placenta with an oblong scar: albumen fleshy.—Leaves *leathery.*

Sect. 1. MICROPHOLIS.—*Calyx* 5-*partite. Anthers ovoid or deltoid, laterally dehiscent: appendages of the corolla minute, linear, incurved. Scar as long as the seed.*—Leaves shining, striated with delicate transverse veins.

5. **S. rugosa,** *Gr.* Branchlets and pedicels slightly sericeous; *leaves polished,* oblong or elliptical, *shortly pointleted with a bluntish point,* glabrous; pedicels fascicled; calyx sericeous: segments ovate, bluntish; corolla 5-fid to the middle, shortly exserted; anthers ovoid, equalling the appendages; berry globose, hard, rough, 4-celled.— Chrysophyllum, *Sw.!* Sideroxylon, *R.S.* Sid. pomiforme, *A. DC.: ex descr.*—A tree; leaves resembling *Calophyllum,* 5″–6″ long: petiole 6‴–8‴, pedicels 5‴–6‴, calyx 1‴ long; berry 1″ diam.—HAB. Jamaica!, *Sw., Pd., M'Nab,* in mountain-woods, Manchester.

Sect. 2. ACHRAS, *A. DC.*—*Calyx* 6-*leaved,* 2-*serial. Anthers sagittate-lanceolate, laterally dehiscent, exceeded by the appendages of the corolla. Scar shorter than the seed.*—Leaves striated with distant, transverse, inconspicuous veins; pedicels single in the axils.

6. **S. Achras,** *Mill.* Branchlets, pedicels, and petioles rusty-pubescent; *leaves* lanceolate-oblong, *with a bluntish point at both ends,* concolor, glabrous; pedicels as long as the petiole, single, but approximate at the leafy top of the branches; sepals ovate, bluntish, rusty-pubescent, 3 interior coloured; corolla scarcely exserted; *berry* large, globose or ovoid, fleshy, 8–10(–12)-*celled.*—*Sl. t.* 230; *Br. Jam. t.* 19. *f.* 3; *Jacq. Amer. Pict. t.* 60; *Tuss. Fl.* 1. *t.* 5; *Desc. Fl.* 4. *t.* 259.—Achras Sapota, *L.*—A tree; leaves 3″–4″, petioles 8‴–12‴, whitish corolla 5‴ long; berry hard-coated, brownish-yellow, usually 3″ diam.: seed black, 1″ long. The *Sapodilla* of the Bahamas (Catesb. Carol. 2. t. 87), with transversely ovoid berries, is said to be a variety.—HAB. Trinidad!, *Lockh., Sch.;* generally cultivated in Jamaica!, all coll., S. Vincent!, *Guild.;* [Mexico! to Guiana!; cultivated in all tropical countries].

7. **S. Sideroxylon,** *Gr.* Branches, pedicels, and petioles slightly greyish-puberulous; *leaves* oblong or lanceolate-oblong, *blunt* or bluntish *at both ends,* glabrous above, paler and glabrate beneath; pedicels as long as the petiole, single, but approximate at the leafy top of the branches; sepals ovate, bluntish, puberulous; *berry* hard, small globose, 6-*celled.*—*Sl. t.* 169. *f.* 2.—Achras, *Hook. Paris Exhibition, p.* 63. A. Sapota, *β, L.* Generally the tallest of all the trees in the woods of Jamaica (*P. Br.*), usually confounded with the preceding, but the leaves larger, 6″–4″ (8″–3″) long, usually rounded at both ends, the young silvery-puberulous beneath, calyx 3‴ long, berry 6‴ diam., mucronate, seeds 3‴–4‴ long.—HAB. Jamaica!, *M'Nab, March,* in the woods of the lowlands and the mountains; [perhaps Key-West: for Nuttall observes of his *Sapota*-specimen from that island, "fruit a round ball, brown, as large as a marble"].

3. SIDEROXYLON, *L.*

Calyx 5-leaved or 5-partite, imbricative. *Corolla* rotate, 5-partite or 5-fid. *Stamens* opposite the corolla-divisions, alternating with uniserial appendages: anthers usually extrorse. *Ovary* 5(–2)-celled: ovules ascending. *Seeds* albuminous, with a small, roundish scar: albumen thick, cartilaginous.—Leaves *reticulated-veiny and chartaceous in the West Indian species.*

8. **S. mastichodendron,** *Jacq.* Glabrous; leaves oval, or ovate-oblong, rounded or bluntish at the top, undulate, long-petioled; pedicels fascicled, usually lateral, 2–4 times shorter than the petiole; *calyx* 5-leaved, puberulous, *half as long as the* 5-partite *corolla; filaments as long as the lanceolate, subentire appendages,* half as long as the obovate corolla-segments: anthers ovoid-oblong; ovary 5-celled; berry ovoid, 1-seeded.—*Catesb.* 2. *t.* 75: a form with long, bluntish leaves; *Jacq. Coll.* 2. *t.* 17. *f.* 5: *analyt.*—Bumelia pallida, *Sw.!* Sideroxylon, *Spreng.*—A tree; leaves variable, 4″–2″(–8″) long; pedicels 3‴, yellow corolla 2‴, berry 8‴–10‴ long.—HAB. Bahamas (*Catesb.*); Jamaica!, *Sw., Al., Wullschl.,* in the lowlands; Antigua!, *Nichols.;* [Cuba!, Haiti!, Guadeloupe!].

9. **S. floribundum,** *Gr.* (*n. sp.*). Glabrous; leaves ovate-oblong, with a bluntish point, undulate-repand, long-petioled; pedicels densely fascicled, lateral, 3–4 times shorter than the petiole; *calyx* 5-lobed, glabrous, *one-third as long as the* 5-*partite corolla; filaments much longer than the subulate,* 3–2-*fid, keeled appendages,* as long as the roundish

corolla-segments: anthers ovoid, emarginate at the base; ovary 5-celled.—*S. fœtidissimum*, Jacq., from his description does not agree in its long appendages, and the preceding has much smaller flowers. Leaves 4''(-2'') long, 2''(-1'') broad below the middle: petiole drooping, 1'' long; fascicles approximate, 5–18-flowered: pedicels thickish, glabrous, 3''' long; sepals roundish, concave-adpressed, much imbricated, quite glabrous or minutely ciliolate; corolla-segments $2\frac{1}{2}$'''–3''' diam., concave; appendages rarely one-third as long as the subulate filaments, keeled on the inside: anthers exserted from the still connivent corolla, incumbent, almost 1''' long; style subuliform, 5-gonal, blunt.—HAB. Jamaica!, *March.*

4. MIMUSOPS, *L.*

Calyx 6–8-leaved, 2-serial. *Corolla* rotate, 6–8-partite: appendages twice as many, resembling its segments, geminate between them: the segments opposite the sepals. *Stamens* opposite the corolla-segments, alternating with as many interior appendages: anthers sagittate, extrorse. *Ovary* 6–8-celled: ovules ascending. *Berry* few–1-seeded by abortion. *Seeds* of *Sideroxylon*.—Leaves *leathery, polished: veins inconspicuous;* corolla *subincluded within the calyx, or shortly exserted.*

10. **M. dissecta,** *R. Br.* *Leaves* oblong or obovate-oblong, retuse, *green, concolor,* glabrous; pedicels as long as the petioles; *corolla-segments* 6, *oblong, exceeding the* lanceolate-linear, *exterior appendages;* interior appendages deltoid, subentire.—Achras, *Forst.!*: his specimen in H. Gott. is good, and identical with our Bahama plant, except in the axils being 1-flowered. M. Sieberi, *A. DC.!*—Leaves 2''–4'', petioles 6'''–10''' long.—HAB. Bahamas!, *Swains.;* S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 33; [Pacific islands!].

11*. **M. Kauki,** *L., R. Br.* *Leaves* obovate or oval, retuse or rounded at the top, *discolor,* silvery-grey by subsericeous down beneath, or glabrate; pedicels as long as the petioles; *corolla segments* 6, *lanceolate, as long as the lanceolate-linear appendages;* interior appendages deltoid, dentate; *berry ovoid* or obovoid.—*Rumph. Amboin.* 3. *t.* 8: presenting 6 sepals. *Gærtn. Carp.* 3. *t.* 205: the seed. *Bot. Mag. t.* 3157.—M. dissecta, *Hook.!* M. Hookeri, *A. DC.!* M. Balata, *Gærtn.* M. Manilkara, *Don.*—Leaves 3''–5'', petioles 8'''–12''', berries 1''–$1\frac{1}{2}$'' long.—HAB. Naturalized in S. Vincent!, *Guild.;* [Pacific islands!, trop. Australia!, East Indies!, on the seashore].

12. **M. globosa,** *Gærtn.* *Leaves* obovate or oval-oblong, retuse or apiculate-blunt, *greyish, concolor,* glabrous above, puberulous or lepidote and glabrescent beneath with minute, scaly down; pedicels about as long as the petioles; calyx puberulous-canescent, 6-leaved; "corolla-segments as long as the exterior appendages; interior appendages 2-dentate at the top;" *berry globose, large.*—*Gærtn. Carp.* 3. *t.* 205: the fruit, agreeing with our Crabb island specimen. *Sl. t.* 228. *f.* 3: the foliage.—M. bidentata, *A. DC.:* from this the description of the corolla is taken. M. Balata, *Crueg.!*—A large tree; leaves 2''–6'' long; rigid, variable: petiole 4'''–12''' long; berry resembling that of *Sapota Achras*, or a depressed apple, $1\frac{1}{2}$'' high, 2'' broad, at length umbilicate at the base. The berries sent by Crueger, only $\frac{1}{2}$'' diam., are probably unripe.—HAB. Jamaica (*Sl.*), S. Anns, near Seville, in woods; Trinidad!, *Cr.;* [Crabb island!; Venezuela!, Guiana].

5. DIPHOLIS, *A. DC.*

Calyx 5(4–8)-leaved, imbricative. *Corolla* rotate or infundibular, 5(–4)-partite or -lobed. *Stamens* opposite the corolla-divisions: appendages 2-serial, exterior geminate between the corolla-divisions, interior alternating with the filaments: anthers extrorse. *Ovary* 5(–4)-celled: ovules ascending. *Berry* usually 1-seeded by abortion. *Seeds* of *Sideroxylon*.—Trees; *leaves chartaceous, arch-veined.*

13. **D. nigra,** *Gr.* Glabrous or early glabrate; *leaves* ovate-oblong or elliptical-oblong, with a bluntish point, undulate-repand, *long-petioled; pedicels* densely fascicled, usually lateral, $\frac{1}{3}$–$\frac{1}{4}$ *as long as the petioles,* calyx 5-leaved, glabrous, half as long as the 5-partite corolla; *exterior appendages oval, interior cordate-deltoid,* serrulate, as long as the stamens; filaments short: anthers bifid from the base to the middle; *berry ovoid-globose.*—*Sw. Fl. t.* 8: the flower; *Gærtn. Carp.* 3. *t.* 202: the fruit.—Bumelia, *Sw.* (*non Rich. Cub.*). Sideroxylon, *Gærtn.*—A large tree; leaves drooping, resembling those of the West Indian *Sideroxyla*, 3''–5'', petioles about 1'' long; pedicels 4'''–2''', corolla $1\frac{1}{2}$''', berry 6'''–8''' long,

the latter 6‴ broad: its milk very clammy (*Pd.*); albumen exactly as in *Sideroxylon.*—Hab. Jamaica!, *Pd., Al., Wullschl., Wils., March*, in mountain-woods.

14. **D. salicifolia,** *A. DC.* Branchlets rusty-sericeous, glabrate; *leaves* lanceolate or elliptical-lanceolate, pointed, *tapering into the petiole*, glabrous; *pedicels* usually densely fascicled and lateral, rusty-sericeous, *shorter than the petioles;* calyx 5-leaved, rusty-sericeous, half as long as the 5-partite corolla; *exterior appendages subulate, interior oval*, serrate, nearly as long as the filaments; anthers oblong; *berry small, ovoid-globose.—Sl. t.* 206. *f.* 2; *Br. Jam. t.* 17. *f.* 4; *Rich. Cub. t.* 54. *f.* 2.—Achras, *L.* Bumelia, *Sw.* B. nigra, *Bertero! (non Sw.)*. B. pentagona, *Sw.* (Sideroxylon, *A. DC.*) *ex descr.:* a form with few-flowered fascicles.—A large, fragrant tree; leaves 4″–2″ long, 16‴–9‴ broad: petiole 6‴–8‴, pedicels 2‴–3‴, corolla 1½‴, berry 4‴–3‴ long, the latter 3‴ broad, shining-black, mucronate, sometimes slightly 5-gonal.—Hab. Jamaica!, all coll., in dry, calcareous soil; Dominica (*Sw.*), Barbadoes (*Mayc.*); Cuba! to Guadeloupe!].

15. **D. montana,** *Gr.* Branchlets rusty-sericeous, glabrate; *leaves* elliptical, obovate, or obovate-lanceolate, blunt, retuse or with a bluntish point, *tapering into a short petiole*, glabrous: fascicles usually few-flowered, axillary: *pedicels* puberulous, *about as long as the* petiole; calyx 5(–8–4)-leaved, sericeous, half as long as the 5-fid corolla: *exterior appendages subulate, interior roundish*, serrate, as long as the filaments; anthers ovate; *berry ovoid.—Sw. Fl. t.* 8: the flower, but not accurate.—A tree; leaves variable, usually 3″–2″, pedicels 3‴–4‴, corolla 1½‴, berry 6‴–8‴ long, the latter 4‴–5‴ broad.—Hab. Jamaica!, *Macf., Pd., Al., Wullschl., March*, in mountain-woods; [Cuba!].

6. BUMELIA, *Sw., Gærtn.*

Calyx 5-leaved, imbricative. *Corolla*, stamens, and appendages of *Dipholis*. *Ovary* 5-celled: ovules ascending. *Berry* mostly 1-seeded by abortion. *Seeds* exalbuminous, with a small roundish scar.—Leaves in the West Indian species *leathery, with somewhat costate, oblique veins, and style exserted, longer than in* Dipholis: *no spines, except in* B. buxifolia.

16. **B. retusa,** *Sw.* Arboreous; branchlets rusty-sericeous or glabrescent; *leaves* obovate or roundish, retuse or rounded at the top, *cuneate at the* shortly petioled *base*, glabrous above, rusty-sericeous or glabrous beneath; *pedicels densely fascicled*, sericeous, usually longer than the petiole; *calyx sericeous*, half as long as the corolla, one-third as long as the style: exterior appendages lanceolate, cuspidate, half as long as the corolla-segments, interior broadly ovate, serrate, channelled; *berry ovoid.—Gærtn. Carp.* 3. *t.* 202.—A hard tree; leaves 2½″–1½″, pedicels 3‴(–6‴), corolla 2‴, berry 1½″ long.—Hab. Jamaica!, *Macf., Pd., March*, in mountain-woods, Manchester; S. Anns; Dominica!, *Imr.*

17. **B. cuneata,** *Sw.* Shrubby; branchlets subsericeous, early glabrescent; *leaves* small, obovate-roundish, rounded or retuse at the top, *cuneate at the* shortly petioled *base*, glabrous; *fascicles few-flowered: pedicels* glabrescent, *as long as the petiole; calyx glabrescent*, half as long as the corolla, one-third as long as the style; exterior appendages lanceolate, exceeding half the corolla-segments, interior broadly ovate, serrulate; *berry obovoid-globose.*—Sideroxylon, *A. DC.* B. myrsinifolia, *A. DC.*—Leaves 8‴–18‴, petioles 2‴, corolla 1½‴, berry 3‴ long.—Hab. Jamaica (*Sw.*); Antigua!, *Wullschl.;* [S. Thomas!, Guadeloupe!].

18. **B. rotundifolia,** *Sw.* Shrubby, *wholly glabrous; leaves* small, oval-roundish, *rounded at both ends*, shortly petioled; *pedicels densely fascicled, longer than the petiole; calyx glabrous;* exterior appendages lanceolate, interior broadly ovate, serrulate; *berry ellipsoidal.*—A small shrub (*Pd.*); leaves about 1″ long, 9‴ broad, sometimes nearly orbicular: petioles 1‴–1½‴, pedicels 2‴, berry 3‴ long.—Hab. Jamaica!, *Pd.*, on rocks, S. Katherine on the banks of the Rio Cobre.

19. **B. Cruegerii,** *Gr.* (*n. sp.*). Branchlets and pedicels puberulous; *leaves* small, obovate, rounded or retuse at the top, *cuneate at the* shortly petioled *base*, glabrous; *pedicels densely fascicled*, lateral, *as long as* the petioles; *calyx puberulous below, half as long as the style*, two-thirds as long as the corolla; *exterior appendages minute, ovate*, much shorter than the corolla-segments, interior broadly ovate, serrulate.—Habit of *B. cuneata*, but fascicles about 20-flowered. Leaves 1½″–1″ long, less leathery than in the other species; pedicels 2‴, corolla 1‴ long.—Hab. Trinidad!, *Cr.*

20. **B. buxifolia,** *W.* *Spinose;* branchlets and pedicels rusty-sericeous; *leaves* oval-oblong, bluntly apiculate, *bluntish at the base,* shining-glabrous above, glabrate beneath; pedicels densely fascicled, lateral, shorter than or as long as the petioles; *calyx rusty-puberulous,* two-thirds as long as the corolla, half as long as the style; *all appendages oblong-lanceolate,* acuminate, as long as the stamens, little exceeded by the corolla.—*Kth. N. Gen.* 7. *t.* 647: the exterior appendages solitary by mistake.—Leaves 2″–1½″ long, 1″ broad; pedicels 2‴–2½‴, corolla 2‴ long.—HAB. Trinidad!, *Cr.;* [Venezuela].

7. LUCUMA, *Juss.*

Calyx 4–many-leaved or -partite, imbricative. *Corolla* tubular, 6–4(–8)-lobed. *Stamens* opposite the corolla-lobes, alternating with as many sterile appendages. *Ovary* 10–2-celled: ovules pendulous. *Seeds* exalbuminous: radicle inferior.

21. **L. multiflora,** *A. DC.* Branchlets rusty-sericeous, glabrate; leaves chartaceous, obovate-oblong or obovate, blunt, glabrous: costate veins distant, delicately reticulated; pedicels fascicled (or single), usually shorter than the petiole; *calyx 4-leaved,* 2-serial: sepals roundish, spreading, rusty-sericeous, half as long as the 6-lobed corolla; anthers ovate-lanceolate, equalling the keeled appendages, laterally dehiscent; ovary 4-celled; *berry globose, 1-seeded* by abortion.—Achras quadrifida, *Hb. Bks.*—A noble tree (*Pd.*), resembling *L. pauciflora,* A. DC. (*Achras vitellina,* Tuss. Fl. t. 4. f. 19), which has densely reticulated leaf-veins, larger flowers, and a 5–8-seeded, eatable berry. Leaves variable, 8″–4″(–2″), corolla 4‴, anthers 1‴ long; berry 8‴–10‴ diam.: pericarp rather leathery, filled up by the subglobose seed.—HAB. Jamaica!, *Macf., Al., Pd., Wullschl.,* Manchester, S. Anns, Hanover, common in woods,

22. **L. mammosa,** *G.* Branchlets rusty-villous; leaves chartaceous, obovate-oblong or spathulate, with a long cuneate base, mucronate, glabrous above, glabrescent beneath: costate veins distant, delicately reticulated; pedicels lateral, subsolitary, but approximate, shorter than the calyx; *calyx* 10–9-leaved, pluriserial, imbricative: sepals roundish, connivent, sericeous, interior half as long as the 5-fid sericeous corolla; anthers lanceolate, equalling the subulate keeled appendages; ovary 5-celled; *berry ovoid-oblong,* rough, usually 1-seeded by abortion.—*Sl. t.* 218. *Jacq. Amer. Pict. t.* 59.—Achras, *L.* (*non Tuss.* 3. t. 6, which is Bassia Jussiæi, *ej.; non Desc.*)—A tree; leaves 8″–6″ long, 3″–2″ broad above; corolla white, 5‴–6‴, berry about 6″, seed 2½″ long.—HAB. Jamaica! (*Jacq.*), *Al., Pd.,* cultivated!; [Cuba, Panama! Venezuela].

8. POUTERIA, *Aubl.*

"*Calyx* 4-partite, imbricative. *Corolla* campanulate, 4-lobed: lobes alternating with appendages. *Stamens* inserted into the base of the corolla-tube." *Capsule* woody, 4-valved to the base, usually 1-seeded by abortion: seed pendulous, loosely enclosed within a red membrane, exalbuminous: testa crustaceous: radicle superior, short.

The affinities of this genus are doubtful: Jussieu considered it to be Ebenaceous. Our specimens are in fruit only, but I compare the flowers of *Labatia,* Mart (Pœpp. Coll. 1885), in which the stamens are opposite the corolla-lobes, though more deeply inserted than in the preceding genera, the appendages analagous to those of *Lucuma,* and the anthers extrorse. Hence *Labatia* is really Sapotaceous, but, if *Pouteria* has the same stamens, this genus would be very anomalous by a superior radicle, dehiscent fruit, the calyx not persistent, and the petioles nodose at the summit.—*Labatia sessiliflora,* Sw., of Haiti, is unknown to me, and I doubt of its being a congerer of *Pouteria.*

23. **P. guianensis,** *Aubl.* Glabrous; leaves usually opposite, elliptical-oblong or lanceolate-oblong, pointed: veins costate; pedicels (in fruit) longer than the petiole; capsule elliptical-oblong, lurid-tomentose.—*Aubl. t.* 33.—A tree; leaves 8″–6″, petiole 12‴–6‴, capsule 1″ long.—HAB. Trinidad!, *Cr.,* S. Anns; [Guiana].

CV. STYRACEÆ.

Petals usually connected by the staminal tube. *Stamens* mostly monadelphous (or

polyadelphous), more numerous than the petals: filaments flattish. *Ovary* usually adnate to the base of the calyx-tube, syncarpous: style simple. *Seeds* albuminous: embryo cylindrical, or with a slender radicle and foliaceous cotyledons.—Woody plants; leaves *simple, exstipulate.*

1. STYRAX, *L.*

Calyx 5-denticulate or -truncate. *Corolla* 5(–3–8)-partite. *Stamens* twice as many as the corolla-segments; anthers usually linear, adnate. *Ovary* 3-celled: cells many-ovulate: upper ovules or all ascending. *Fruit* usually subcylindrical and 1-seeded by abortion, supported by the calyx, often 3-valved. *Embryo* axile: cotyledons foliaceous, as long as the radicle.—Flowers *white; down mostly stellate or lepidote, rarely simple.*

Sect. NOTHOSTYRAX.—*Corolla-segments valvate. Calyx adnate to the base of the ovary.*

1. **S. glaber,** *Sw.!* Branchlets lepidote; *leaves* elliptical or elliptical-oblong, pointleted, subentire, *white-lepidote beneath*, and with scattered, rusty, stellate, disappearing scales; racemiform cymes axillary, exceeding the petiole: pedicels shorter than the nodding flower; corolla tomentose-lepidote, thrice as long as the 5-denticulate calyx; anthers linear. —S. occidentalis, *Sw.!* S. guianensis, *A. DC.* (*Pl. Spruce.* 2126).—A tree; leaves 4″–8″, corolla 8‴ long; cymes many–2(–1)-flowered.—HAB. S. Vincent!, *Anders.*; [Guiana, equatorial Brazil!].

2. SYMPLOCOS, *Jacq.*

Calyx 5-lobed. *Petals* 5–8 (–10), imbricative, usually connected at the base by the staminal tube. *Stamens* mostly indefinite: anthers erect, roundish. *Ovary* 3–5(–6–2)-celled: cells few-ovulate: ovules pendulous. *Drupe* adnate to the calyx-tube, crowned below the summit by its limb. *Embryo* cylindrical.—Peduncles *axillary*: flowers in the West Indian species *white, odorous; down simple.*

Sect. CIPONIMA, *Aubl.*—*Petals spreading above. Filaments erect, several-serial, flat, constricted below the anther. Drupe* 3–5-*celled: cells* 1-*seeded by abortion.*

2. **S. octopetala,** *Sw.* Branchlets glabrescent; leaves elliptical, bluntly mucronate, glandular-serrulate above, glabrous, or sparingly hispidulous and glabrate beneath; *peduncles* 1–2-*flowered*, exceeding the petiole; *calyx* supported by 3–5, roundish, pubescent bractlets: *lobes roundish, ciliate;* 5 petals obovate-oblong, often with an accessory row of 1–" 4 " narrower ones; stamens monadelphous: tube much exceeding the line of adhesion; *drupe oblong,* 5-celled, glabrous.—Ternstrœmia crenata, *Macf.*—A tree, 30′ high; leaves thin, rigidulous, 3″–4″, peduncles 5‴–6‴, corolla 6‴–5‴, drupe 8‴ long: the larger drupe is the chief ground for supposing that this is not a form or monstrosity of the following species.—HAB. Jamaica!, *Pd.*, *Al.*, in woods, S. Anns, S. George.

3. **S. martinicensis,** *Jacq.* Branchlets glabrescent; leaves elliptical, pointleted or bluntish, subentire, crenulate-repand or serrulate, glabrous; *peduncles* 5–1-*flowered*, nearly as long as the petiole; *calyx* supported by several deltoid or roundish, puberulous bractlets: *lobes roundish, ciliate;* petals 5, oblong; stamens pentadelphous: bundles adhering nearly to the middle of each petal, deeply divided above the line of adhesion; *drupe small, ovoid-oblong,* 5(–3)-celled, glabrous.—*Sw. Obs. t.* 7. *f.* 1.—A tree or shrub; leaves shining, rigidulous, 2″–4″, peduncles 3‴–5‴, corolla 4‴–5‴, drupe 4‴ long.—HAB. Jamaica!, *Pd.*, Manchester; Dominica!, *Imr.*; [Cuba! to French islands!].

4. **S. Ciponima,** *L'Hér.* *Branchlets hirsute;* leaves oblong or lanceolate-oblong, with a bluntish point, revolute at the margin, subentire or crenate-repand, glabrous above, hispidulous beneath; *peduncles reduced,* 3–*many-flowered; calyx* supported by hirsute bractlets: *lobes ovate-lanceolate, blunt, hirsute;* petals 5, oblong; stamens pentadelphous: bundles slightly adhering to the petals, divided nearly to the middle; *drupe* "*ovoid,* 5–4-celled, glabrescent."—*Aubl. t.* 226. *Mart. Fl. Bras.* 17. *t.* 8. *f.* 2: *analyt.*—A shrub, 8′ high; leaves 2″–3″, corolla 3‴–5‴, drupe " 4‴ long."—HAB. Trinidad!, *Pd.*, *Cr.*, in woods; [Venezuela!, Guiana!, eq. Brazil!].

Of *Humiriaceæ*, *Saccoglottis amazonica*, Mart., occurs in Rev. Mr. Guilding's S. Vincent collection, but is probably only cultivated in that island's Botanic Garden.

CVI. EBENACEÆ.

Flowers usually diœciously polygamous. *Corolla* sympetalous: lobes dextrorsely contorted. *Stamens* indefinite–3, inserted into the base of the corolla or hypogynous: anthers large, erect, tapering above. *Ovary* superior, syncarpous, 3–12-celled: ovules 1–2 in each cell, pendulous; style mostly divided. Berry mostly supported by the calyx. *Testa* membranaceous. *Embryo* in the axis of cartilaginous albumen: radicle slender, superior.—Woody plants; leaves *entire, exstipulate;* inflorescence *axillary;* corolla *usually pubescent.*

I. DIOSPYROS, *L.*

Calyx 4–6-lobed or -partite. *Corolla* campanulate or tubular: limb 4–6-partite. *Stamens* inserted without order into the base of the corolla: filaments often connected in pairs, less numerous in ♀. *Ovary* 4–12-celled: cells 1-ovulate.—Hermaphrodite or ♂ flowers usually clustered, and ♀ solitary.

Sect. Tetradiospyros, *A. DC.*—*Calyx 4-lobed to the middle. Stamens in the hermaphrodite flower* 8–6. *Ovary* 4-*celled: style* 4-*fid. Berry globose,* 4(–2)-*seeded, supported by the cupuliform calyx.*—Peduncles of hermaphrodite 3-flowered.

1. **D. tetrasperma,** *Sw.* Branchlets glabrescent; leaves cuneate-spathulate, blunt, glabrous, shining above, the young ones pellucid-dotted; peduncles as long as the petioles, cernuous; corolla sericeous: tube ellipsoidal-cylindrical, twice as long as the calyx, much longer than the 4-partite limb.—*Jacq. Schœnbr. t.* 312. *Gærtn. Carp.* 3. *t.* 208: the fruit.—D. obovata, *Jacq.*—A shrub; leaves 1½″–3″, calyx 2‴ long, the latter slightly imbricative with rounded lobes; corolla yellowish: tube 4‴, lobes 1‴ long, ovate-roundish; filament-pairs alternating with the corolla-lobes: anthers hastate, longer than the filament; berry 6‴ diam.; testa rugulose, but albumen not ruminate: embryo cylindrical.—Hab. Jamaica!, *Pd., M'Nab, March,* on arid calcareous soil along the coast, S. Andrews, S. Marys; [Cuba!; Panama].

2. MABA, *Forst.*

Calyx 3-lobed. *Corolla* campanulate: limb 3-partite: stamens of ♂ free from the corolla: anthers lanceolate-linear, often apiculate. "Ovary of ♀ 3-celled: cells 2-ovulate; style 3-fid."—♂ flowers *clustered or solitary.*

Jacquin described the berry as 6-celled, combined with a 3-fid style. *Macreightia caribæa,* A. DC. (Cuba!), is no congener of our plant: its 3-lobed calyx has replicative sinus, and its 3 stamens in ♀ are inserted into the corolla, viz. two opposite its lobes, the third nearly alternating: ovary 3-celled, with three other incomplete dissepiments, separating the geminate ovules; berry large, ovoid; albumen deeply ruminate, cartilaginous.

2. **M. inconstans,** *Gr.* Branchlets glabrescent; leaves obovate-oblong, glabrous; peduncles in ♂ 3–"many"-flowered, lateral, as long as the petioles; calyx 3-lobed to the middle: lobes roundish, apiculate: corolla densely sericeous: tube subcylindrical, twice as long as the ovate, pointed lobes; stamens 11–10–"3": anthers apiculate.—*Jacq. Amer. Pict. t.* 263. *f.* 87: the flower.—Diospyros, *Jacq.* Macreightia, *A. DC.* Diosp. Berterii, *A. DC.* (D. obtusifolia, *Berter!*).—A shrub, 10′ high; leaves 3″–5″, imbricative calyx 2‴, tube of the yellowish corolla 3‴ long, its lobes slightly contorted, induplicative; stamens distinct: anthers twice as long as the filament, lanceolate-linear: connective forming a point beyond the cells; "berry globose."—Hab. S. Vincent!, *Guild.;* [New Granada!, on the coast].

CVII. OLEINEÆ.

Corolla sympetalous or petals 4, incompletely connected by 2 (4–1) stamens; rarely wanting: æstivation usually valvar. *Ovary* superior, syncarpous, 2-celled: ovules 2 in each cell, pendulous, collateral. *Embryo* with foliaceous cotyledons, in a large albumen (rarely "thick and exalbuminous").—Woody plants; leaves *opposite, exstipulate;* inflorescence *trichotomous-paniculate, corymbose, or racemose.*

1*. OLEA, *L.*

Calyx 4-fid or truncate. *Corolla* deeply 4-fid (rarely 0): lobes ovate. *Stamens* 2, inserted into the corolla-tube. *Drupe* usually 1-seeded: endocarp hard: seed exalbuminous.—Leaves *simple.*

1*. **O. fragrans,** *Thunb.* Glabrous; leaves leathery, elliptical-oblong or elliptical-lanceolate, serrulate or subentire, dotted beneath; flowers diœcious, in axillary corymbs; anthers shortly exserted: connective enlarged; ovary in ♂ 2-fid, with conical, incurved lobes.—*Bot. Mag. t.* 1552.—Osmanthus, *Lour.*—A shrub; leaves 3″–1½″, corolla 2‴ long, fragrant.—HAB. Naturalized and common in the highlands of Jamaica!, *March;* [introduced from China].

2. HÆNIANTHUS, *Gr.*

Calyx 4-fid. *Corolla* 4-partite: segments subcylindrical-clavate, induplicative at the base. *Anthers* 2, ovoid, laterally dehiscent, subsessile within the corolla-tube. *Stigma* thick, subsessile. *Drupe* 1-seeded by abortion: endocarp chartaceous. *Albumen* cartilaginous.—Trees, *glabrous, but bearing scattered, minute scales on the branches and foliage;* leaves *simple, quite entire, petioled;* panicle *terminal, trichotomous;* pedicels *ternate, thickish.*

The drupe is described from a nearly allied new Cuba species, discovered by Mr. Wright. In its seed it is not distinguished from *Linociera,* the West Indian species of which prove albuminous (as described by Gærtner), while the East Indian *Linocieræ* (i.e. *Chionanthus,* Bl.) are said to be exalbuminous. Our genus has the corolla-tube of *Chionanthus,* the thin endocarp of *Eulinociera,* and is peculiar by its spreading, elongated-clavate corolla-segments, which are cylindrical and somewhat laterally compressed.

2. **H. incrassatus,** *Gr.* *Leaves* rigid, elliptical or elliptical-oblong, cuneate at the base, bluntish, *twice as long as the petiole:* veins costate, delicate; anthers filling up the corolla-tube, twice as long as the pistil.—Chionanthus, *Sw.!*—A large tree; leaves 3″–2″ long, 1½″–1″ broad; calyx minute; corolla white: tube 1‴, segments 3‴ long—HAB. Jamaica!, *Sw., Macf.,* in mountain-woods.

3. LINOCIERA, *Sw.*

Calyx 4-fid. *Petals* 4, linear, connected in pairs by the filaments. *Stamens* 2. *Stigma* emarginate-capitate, terminating the style. *Drupe* 1–2-seeded by abortion. *Albumen* cartilaginous.—Leaves *simple, quite entire;* flowers *in panicles or corymbs.*

Sect. 1. EULINOCIERA.—*Anthers elongated, nearly extrorse, exceeding the filiform style, in the bud enclosed within the induplicative petals: filaments almost wholly adnate. Endocarp chartaceous.*—Leaves shining above, dotted beneath.

3. **L. ligustrina,** *Sw.* Glabrous; leaves elliptical-lanceolate or obovate-lanceolate; panicles terminal and axillary: *pedicels* ternate, *as long as the flower, 2-bracteolate above the base,* or towards the middle; *anthers linear,* almost as long as the petals; drupe ovoid-subglobose.—*Sw. Fl. t.* 2: *analyt.*—A tree (*Pd.*) or shrub; leaves 2″, white corolla 4‴–3‴, drupe 4‴ long.—HAB. Jamaica!, *Pd., Wullschl.,* Manchester, Westmoreland; [Cuba!, Haiti].

Sect. 2. CERANTHUS, *Schreb.—Anthers short, laterally dehiscent, equalling the short style: filaments free above. Endocarp hard.*—Leaves dotless.

4. **L. compacta,** *R. Br.* Leaves rigid, elliptical-oblong, pointleted, glabrous: vein-axils bearing usually a tuft of hairs beneath; panicle terminal, puberulous: *flowers* ternate, *shortly pedicellate;* pedicels as long as the calyx; *anthers ovate, pointed;* drupe ellipsoidal-oblong, bluntish.—*Jacq. Coll.* 2. *t* 6. *f.* 1. *Pohl, Bras.* 2. *t.* 164.—Chionanthus, *Sw.* C. caribæa, *Jacq.* C. incrassata, *Berter!* (*non Sw.*). L. tetrandra, *Sieb. Mart.* 3: being diandrous. L. glomerata, *Pohl.*—A tree; leaves 5″–3″, bluntly linear corolla-segments 6‴, drupe 9‴ long.—HAB. Nevis, Antigua!, *Wullschl.,* Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Sieb., Cr.;* [Cuba! to French islands!; Venezuela!, Brazil].

4. FORESTIERA, *Poir.*

(Adelia, *P. Br.*, *non L.*)

Flowers polygamous, in short, axillary, amentaceous racemes. *Calyx* 4-partite, minute, deciduous. *Petals* 0. *Stamens* 4–2(–1). *Style* cylindrical: stigma capitate-emarginate. *Drupe* 1-seeded by abortion: seeds albuminous.—Shrubs; leaves *simple, variable.*

5. **F. cassinoides,** *Poir.* (*exclus. syn. P. Br.*). Glabrous (or glabrescent); leaves rigid, elliptical-roundish or elliptical-oblong, quite entire, petioled, slightly dotted (or nearly dotless) beneath; *drupe obliquely oblong, bluntish, longer than the pedicel.*—Leaves 2½″–1″, drupe 6‴ long, the latter black with bluish bloom.—Hab. Bahamas!, *Hjalmars.*, Turk Islands; Jamaica!, *Pd.*, S. Elizabeth, in the Santa Cruz mountains; [Guadeloupe!].

6. **F. porulosa,** *Poir.* Glabrous; leaves leathery, lanceolate-oblong or elliptical, usually blunt, quite entire, cuneate at the subsessile base, dotted beneath; *drupe obliquely ellipsoidal,* bluntish or subacute, *nearly as long as the pedicel.*—*Br. Jam. t.* 36. *f.* 3. *Jacq. Ic. Rar. t.* 625: a larger leaved form.—Adelia, *Mich.* Borya, *W.* Myrica segregata, *Jacq.* Piptolepis phyllyreoides, *Benth.*!: I however saw no more than 4 stamens.—Leaves 6″–2″ long, often shining above; drupe 4‴ long, with a bloom.—Hab. Jamaica!, *March,* common in the low hills east of Kingston (*P. Br.*); [Cuba!, Florida, Texas!, Mexico!].

CVIII. JASMINEÆ.

Stamens 2, inserted into the sympetalous, imbricative corolla. *Ovary* superior, syncarpous, 2-celled: ovules single (or few) in each cell, ascending. *Seeds* exalbuminous, or nearly so.—Shrubs, *often climbing;* leaves *exstipulate, usually opposite;* inflorescence *corymbiform-cymose.*

1*. JASMINUM, *L.*

Corolla salver-shaped: limb 5–8-partite. *Berry* didymous.—Leaves *compound, or* 1-*foliolate with a jointed petiole;* flowers *fragrant.*

1*. **J. officinale,** *L.* Glabrous; *leaves* opposite, *impari-pinnate*: leaflets 3-jugal, ovate, or ovate-lanceolate, terminal acuminate; cymes lax, few-flowered, terminal and from the uppermost axils; calyx-lobes linear; corolla white: tube exceeding the calyx, lobes oval. —Hab. Naturalized in Jamaica, Antigua!, *Wullschl.*; [introduced from Asia].

2*. **J. gracile,** *Andr.* Glabrous; branches cylindrical, scandent; *leaves* opposite, 1-*foliolate,* ovate, pointed; cymes trichotomous, terminal; calyx-teeth minute; corolla white; tube much longer than the calyx, nearly as long as the oblong lobes.—*Jacq. Schœnbr. t.* 321. —J. volubile, *Jacq.*—Hab. Naturalized in Jamaica!, *March*; [introduced from the Pacific islands].

CIX. APOCYNEÆ.

Stamens 5, inserted into the sympetalous, contorted (rarely valvate) corolla. *Ovaries* superior, usually 2, united by the style or ovary of 2 connected carpophylls, 2–1-celled: placentas usually many-ovulate. *Seeds* mostly albuminous: cotyledons usually foliaceous. —Leaves *entire, usually opposite, often with stipular glands or fringes;* inflorescence *cymose.*

The milky sap is rich in Caoutchouc (prepared in Jamaica from *Echites paludosa*, Pd.), and it affords drastic medicines (*e. g. Allamanda, Rauwolfia*). It is said to be not milky, but is very poisonous in the anomalous genus *Strychnos,* which on the continent affords the Curare-poison. The drupe of *Thevetia* is poisonous too. From *Echites suberecta* starch is extracted in Jamaica.

Series 1. **Rauwolfieæ.**—*Connective not produced below the anther-cells. Seeds devoid of a coma* (*rarely comose*).—Corolla, in the West Indian genera, sinistrorsely contorted (except in *Strychnos*).

1. STRYCHNOS, *L.*

Calyx 5–4-partite. *Corolla* salver-shaped or rotate: lobes valvate. *Stamens* inserted

into the corolla-throat: anthers subsessile: connective not produced. *Ovary* 2-celled: style filiform, with a thickish stigma. *Berry* large: seeds peltate, albuminous. *Cotyledons* foliaceous.—Shrubby vines *or* trees; leaves *usually triplinerved; flowers small, in corymbiform cymes.*

1. **S. trinitensis,** *Gr.* (*n. sp.*). Branches bearing woody tendrils: branchlets appressed-puberulous; leaves leathery, ovate or elliptical-oblong, with a bluntish point, complicate-rounded at the base, triplinerved with an accessory suprabasilar pair, and prominent reticulated veins, shining-glabrous; cymes trichotomous, subsessile in the axils: pedicels ternate, short; calyx-segments 4, lanceolate, pointed; *corolla* puberulous: *lobes one-third as long as the filiform tube,* lanceolate, bluntish, thickly bearded at the base; anthers exserted; stigma emarginate-pyriform.—Habit of *S. rondeletioides,* Spruce. Leaves 4″–3″ long, 2″–1½″ broad: petiole 3‴, pedicels 1‴, calyx ½‴, corolla-tube 3‴ long; style shortly exserted.—Hab. Trinidad!, *Cr.,* at Caura.

2. ALLAMANDA, *L.*

Calyx 5-partite. *Corolla* large: tube infundibular, abruptly dilated. *Anthers* sagittate, subsessile above the narrow part of the corolla-tube, opposite to 2-partite bearded scales. *Ovary* 1-celled: stigma thick, constricted at the middle, with 2 points. *Capsule* echinate: seeds winged.—Shrubs; branches *trailing.*

2*. **A. cathartica,** *L.* Leaves whorled, elliptical-oblong or oblanceolate, pointleted, pilose on the midrib beneath; calyx eglandular: segments oblong-lanceolate, bluntish; corolla-lobes roundish; disk 5-lobed; "seeds narrowly winged."—*Bot. Mag. t.* 4411.—A. Aubletii, *Pohl.*—Corolla yellow, 3″–4″ long: narrow part about 1″ long—Hab. Naturalized and cultivated in Jamaica!, *Al.,* S. Kitts!, Antigua!, S. Vincent!, *Guild.;* [Panama! to Brazil!].

3. THEVETIA, *L.*

Calyx 5-partite. *Corolla* large, infundibular, narrow at the base. *Stamens* inserted below the bearded corolla-throat, opposite to its crown-scales: connective mucronate. *Ovary* 2-celled: stigma thick, with 2 minute points. *Drupe* 4–2-seeded, transversely enlarged, incompletely dehiscent. *Embryo* "exalbuminous."—Shrubs; leaves *alternate, subsessile.*

3. **T. neriifolia,** *Juss.* Leaves linear, glabrous; shining above; calyx-segments lanceolate-acuminate, about half as long as the cylindrical part of the corolla, which is one-third as long as its enlarged tube.—*Jacq. Amer. Pict. t.* 47. *Tuss. Fl.* 4. *t.* 7. *Desc. Fl.* 3. *t.* 158.—Cerbera Thevetia, *L.*—Leaves 6″–3″, saffron-coloured corolla 3″ long—Hab. Jamaica!, *Pd.,* on the coast, and cultivated; Antigua!, *Wullschl.,* S. Vincent!, *Guild.;* [Cuba! to French islands!; Mexico! to Peru! and Brazil!].

4. RAUWOLFIA, *L.*

Calyx 5-fid or 5-partite. *Corolla* salver-shaped. *Stamens* inserted below the corolla-throat. *Ovaries* 2, distinct or slightly cohering, few-ovulate, surrounded by an urceolate disk: stigma indusiate: indusium often including the 2 points. *Drupe* didymous by cohesion of the carpids.—Woody plants; leaves *whorled, usually of different size in the whorl; flowers small, white, or red.*

4. **R. nitida,** *L.* Glabrous; *leaves chartaceous,* shining above, 4(–2) in the whorl, elliptical or lanceolate-oblong, pointed, tapering into the petiole: veins delicate, costate beneath; cymes many-flowered; *calyx* 5-*fid,* one-fourth as long as the pedicel, one-third to one-fourth as long as the cylindrical corolla-tube: *lobes rounded-ovate;* corolla bearded at the throat: lobes half as long as the tube; stigma-points exceeding the indusium; drupe emarginate: *carpids semiovoid-roundish.*—*L. Ht. Cliffort. t.* 9.—12′ high; leaves variable, 2″–5″ long; corolla white: tube 3‴–2‴, carpids 4‴ long.—Hab. Jamaica!, *Macf., Pd., Al.,* in mountain-woods, Manchester, S. Anns; [Cuba! to S. Barthélemy].

5. **R. canescens,** *L.* Pubescent (or glabrescent); *leaves membranaceous,* 4(–3) in the whorl, elliptical-oblong, pointed, shortly petioled: veins delicate, costate; cymes few-flowered; *calyx* 5-*fid,* half as long as the pedicel and as the cylindrical corolla-tube: *lobes*

ovate, blunt; corolla hairy: lobes small, roundish, one-third as long as the tube; *drupe roundish:* carpids connected nearly to the summit.—*Sl. t.* 188. *f.* 1. *t.* 211. *f.* 1; *Jacq. Amer. Pict. t.* 46; *Desc. Fl.* 3. *t.* 184.—R. tomentosa, *Jacq.*—8′-1′ high; leaves 3″–2″, corolla-tube 1½‴ long; flowers white or rosy; drupe 2‴ diam.—Hab. Jamaica!, *Macf.*, common in the savannahs, near Kingston (*P. Br.*); [Cuba!, Haiti; Venezuela!, New Granada!].

6. **R. Lamarckii,** *A. DC.* Glabrous; *leaves membranaceous,* 3–4 in the whorl, elliptical-oblong or elliptical, pointed, shortly petioled: *veins costate, secondary ones reticulate;* cymes few–many-flowered; *calyx* 5-*fid,* one-third to one-fourth as long as the constricted corolla-tube: *lobes deltoid, pointed;* corolla glabrous: lobes ovate-oblong, half as long as the tube; *drupe roundish, retuse-truncate, broader than long.—Lam. Ill. t.* 172. *f.* 1.—R. nitida, *Lam.* R. lanceolata, *Pl. Carib.* (*an A. DC.?*). R. latifolia, *A. DC.*—Leaves 2″–6″, corolla-tube 2‴ long; drupe 3‴ long; 4‴ broad.—Hab. Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad (*Sieb.*); [Cuba! to French islands!, on the calcareous seashore; Ecuador].

7. **R. biauriculata,** *J. Müll.* Glabrous; *leaves chartaceous,* 3 (–4) in the whorl, elliptical-oblong or lanceolate-oblong, pointleted with a bluntish point, petioled: *veins inconspicuous;* cymes long-peduncled, nearly equalling the leaves: pedicels about as long as the flower; *calyx* 5-*partite,* one-third as long as the subcylindrical corolla-tube: *segments ovate-lanceolate, acuminate; corolla-lobes cordate-oblong,* little shorter than the tube, callous at the basilar auricles; *drupe ellipsoidal:* carpids connected nearly to the summit.—Leaves 5″–2″, petioles 6‴–2‴, corolla-tube 3‴, lobes 2‴, drupe 6‴ long.—Hab. Dominica!, *Imr.;* Trinidad (*J. Müll.*); [Haiti].

8. **R. ternifolia,** *Kth.* Branchlets puberulous; *leaves membranaceous,* 3–4 in the whorl, ovate-lanceolate, shortly acuminate, *puberulous on the midrib beneath,* shortly petioled, arch-veined: veins delicate; cymes few-flowered; *calyx* 5-*fid,* one-third to one-fifth as long as the constricted corolla-tube: *lobes deltoid-pointed;* corolla-lobes minute, one-third to one-fourth as long as the tube; drupe roundish, retuse-truncate.—*Bot. Mag. t.* 2440: a larger-leaved form.—R. parvifolia, *Spreng.*—Leaves 2″–1″, corolla-tube 1½‴ long; drupe 3‴ diam.—Hab. Trinidad!, *Pd.*, in woods; [Venezuela, Guiana!, Brazil!].

9. **R. Alphonsiana,** *J. Müll.* Branchlets puberulous; *leaves* small, *membranaceous,* 3 in the whorl, ovate-lanceolate, *glabrous,* shortly petioled: veins delicate; cymes few-flowered; *calyx* 5-*partite,* about half as long as the constricted corolla-tube: *segments subulate-acuminate;* corolla-lobes oblong, about half as long as the tube.—R. parvifolia, *var.* cubana, *A. DC.*—Leaves 8‴–15‴, corolla-tube 1½‴ long.—Hab. Trinidad!, *Cr.;* [Cuba!].

5. VALLESIA, *R. P.*

Calyx 5-fid. *Corolla* of *Rauwolfia. Anthers* subsessile at the campanulate upper part of the corolla-tube. *Ovaries* 2, few-ovulate, destitute of an urceolate disk: stigma indusiate, with 2 exserted points. *Berries* 2, distinct, or solitary by abortion, 2–15-seeded: endocarp leathery. *Cotyledons* linear-oblong.—Shrubs; leaves *alternate, stipulate;* cymes *opposite to the leaves:* flowers *small, white.*

10. **V. glabra,** *Cav.* Leaves leathery, glabrate, shining, oblong or oblong-lanceolate, pointed; *corolla-lobes oblong, one-third as long as the tube; berries spathulate-cylindrical,* curved-diverging.—*Cav. Ic.* 3. *t.* 297; *R. P. Fl. Peruv. t.* 151 *B.*—V. dichotoma, *R. P.*—Evergreen; leaves 2″–1″ long, petioled; calyx ½‴ long: lobes deltoid, pointed; corolla-tube 2½‴, narrow, slightly enlarged above the middle, internally puberulous above the ovate-lanceolate anthers; berries 5‴ long, 1‴ diam.—Hab. Bahamas!, *Swains.;* [range following dry climates: Key West!; Cuba!, Mexico! upwards to 5000′, Ecuador!, Tucuman!; Galapagos!].

6. TABERNÆMONTANA, *L.*

Calyx 5-partite or 5-fid, glandular within. *Corolla* salver-shaped: tube usually enlarged at the insertion-line of the stamens. *Anthers* sagittate, acuminate. *Ovaries* 2: stigma supported by an annular indusium. *Folicles* broad, often pulpy: seeds grooved.—Shrubs *or* trees, *mostly glabrous;* leaves *opposite:* veins *costate;* flowers *flagrant, white, or yellow.*

Sect. 1. Bonafousia, *A. DC.—Follicles smooth.*

11. **T. undulata,** *V.* Leaves oblong, undulate, pointleted, tapering into the short petiole: veins straightish, connected near the margin; cymes few-flowered: peduncle as long as the petiole; *calyx* 5-partite: *segments* oval-oblong, *blunt; corolla yellow: lobes* linear-oblong, *about half as long as the subcylindrical tube:* stamens inserted above its middle; ovaries surrounded by an urceolate disk; stigma 2-mucronate; follicles "incurved."—*Vahl, Ic. t.* 6.—Bonafousia, *A. DC.*—A tree; leaves 6″–4″, calyx 2‴, corolla-tube 12‴ long.—Hab. S. Vincent!, *Guild.*, perhaps cultivated; Trinidad!, *Cr.*, *Lockh.*, *Pd.*, in woods and ravines; [Guiana!].

12. **T. laurifolia,** *L.* *Leaves* oval-oblong or oval, *blunt at both ends*, petioled: veins arched; cymes contracted: peduncle about as long as the petiole; *calyx* 5-partite: *segments roundish; corolla yellow;* limb subglobose in the bud, *lobes* linear-oblong, *shorter than* the tube, *tube cylindrical with a campanulate summit;* disk obsolete; stigma 5-angular: indusium broad.—*Sl. t.* 186. *f.* 2.—A shrub; leaves 8″–4″, calyx 1‴, corolla-tube 8‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *Dist.*, in woods; Trinidad!; [Haiti].

13. **T. citrifolia,** *Jacq.* *Leaves* oblong or obovate-lanceolate, pointleted, or with a bluntish point, *tapering into the petiole*, veins distant, arched; cymes short: peduncle about as long as the petiole; *calyx* 5-partite*: segments ovate, bluntish; corolla* "*white:*" limb ovate, pointed in the bud, *lobes* obliquely spathulate, *about as long as the tube, tube subcylindrical with a campanulate summit; anthers with their points exserted;* disk obsolete; stigma 5-angular: indusium broad; follicles ovate or oblong-cylindrical, incurved, pointed, costate.—*Jacq. Amer. Pict. t.* 40; *Desc. Fl.* 1. *t.* 9.—T. alba, *Nich.*—A large shrub; leaves 7″–4″, calyx 1‴, corolla-tube 4‴ long.—Hab. Jamaica!, *Wils.*, common; Antigua, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.; Trinidad!, *Pd.*, *Sch.*, *Cr.*, in woods; [Cuba! to French islands!; Mexico].

14. **T. discolor,** *Sw.!* *Leaves* elliptical-oblong, *pointed at both ends*, petioled: veins distant, arched; cymes few-flowered, subsessile; *calyx* 5-partite: *segments ovate, bluntish; corolla* "*yellowish:*" limb ovate, pointed in the bud, *lobes* obliquely obovate, *half as long as the subcylindrical tube: stamens inserted into its middle.*—T. citrifolia, *Mill. ap. Lun.*—A shrub; leaves 3″, calyx 1‴, corolla-tube 6‴–7‴ long.—Hab. Jamaica!, *Sw.;* [Cuba!].

15. **T. Wullschlægelii,** *Gr.* (*n. sp.*). Leaves oblong or lanceolate-oblong, with a bluntish point, shortly tapering into the petiole: veins distant, arched, petioles united by the stipular sheath; cymes many-flowered, subsessile; *calyx* 5-partite: *segments roundish; corolla-limb ovate, bluntish in the bud, lobes* obliquely ovate-oblong, *little shorter than the tube, tube* cylindrical at the base, *campanulate-tubular from the middle: stamens inserted into its middle,* equalling the upper part; disk none; stigma 5-angular: indusium broad, 5-globose.—A tortuous shrub: branches subtetragonal: bark densely marked by annular scars; leaves 5″–2″ long, 18‴–9‴ broad: petiole 8‴–3‴ long, shortly exceeded by the cymes; calyx $\frac{2}{3}$‴, corolla-tube 4‴, subsessile anthers 2‴ long, the latter opposite to longitudinal plaits of the corolla-tube, exceeding the thick, subtruncate stigma.—Hab. Jamaica!, *Wullschl.*, Manchester, at Fairfield.

16. **T. psychotriifolia,** *Kth.* Leaves oblong, undulating, bluntish, shortly tapering into the petiole: veins distant, straightish, connected near the margin; cymes many-flowered, subsessile; *calyx* 5-partite: *segments* ovate or ovate-lanceolate, *recurved at the bluntish point; corolla-limb ovate, bluntish in the bud, lobes* obliquely obovate or obovate-oblong, *undulate, as long as the tube, tube cylindrical above the dilated base: stamens inserted above its base,* included.—A large tree, 60′–80′ high; leaves resembling *T. undulata*, 8″–4″ long, 4″–2″ broad: petiole 1″, calyx 1‴, corolla-tube 4‴ long: its lobes hairy near the throat; flowers "white" (*Kth.*).—Hab. Trinidad!, *Cr.;* [Venezuela].

7. CONDYLOCARPUM, *Desf.*

Calyx 5-partite. *Corolla* small, salver-shaped: tube pubescent within below the stamens, lobes obliquely produced into an appendage on the right side. *Stamens* inserted into the corolla-tube. *Ovaries* 2, distinct or slightly cohering: stigma capitate. *Carpids* lomentaceous: parts corky, 1-seeded: seeds deeply grooved on the placental side. *Cotyledons* oblong-linear.—Vines; cymes *peduncled, corymbiform, many-flowered: their branches* 3–5(–6)*-nate.*

17. **C. intermedium,** *J. Müll.* *Glabrous;* leaves elliptical, shortly pointleted, long-

petioled; cymes lax, terminal; calyx spreading, half as long as the corolla-tube; *lomentum-parts ovoid*, flattish-convex: seeds slightly transversly rugose.—Leaves $3\frac{1}{2}''-2\frac{1}{2}''$, petiole $8'''-4'''$, cymes $1''$, corolla-tube $1'''$, lobes $1'''$ long; flowers yellowish; lomentum 4-2(-6)-jointed: parts $10'''-8'''$, narrow joints $1'''-\frac{1}{2}'''$, seeds $6'''$ long.—HAB. Trinidad!, *Cr.*, on the seacoast at Irais; [Guiana, Brazil].

8. CAMERARIA, *L.*

Calyx 5-fid. *Corolla* salver-shaped: tube subcylindrical. *Stamens* inserted into the slightly enlarged upper part of the corolla-tube: anthers subsessile: connective produced at the summit into a long, setaceous appendage. *Ovaries* 2: style filiform: stigma indusiate, 2-partite into conical segments. *Samaræ* with the wing terminal, elongated, abruptly dilated at the base and lining the carpid.—Glabrous trees or shrubs; leaves *membranaceous, petioled;* cymes *terminal, few-flowered:* flowers *white.*

18. **C. latifolia,** *L.* *Leaves elliptical, pointleted: veins costate,* approximate, connected by a continuous, juxtamarginal arch.—*Jacq. Amer. Pict. t.* 39.—A large tree; leaves $1\frac{1}{2}''$, calyx $1'''$, corolla-tube $4'''$, lobes about $4'''$, samara $2''$, its carpid $8'''$ long; anthers oblong, as long as their appendage.—HAB. Jamaica (*Jacq.*); [Cuba!, Haiti].

19. **C. angustifolia,** *L.* (*exclus. syn. Plum.*). *Leaves lanceolate or oblong-linear,* blunt, emarginate at the top, shortly petioled: *veins* delicate, *in a lax network.*—If Plumier's figure (*Ed. Burm. t.* 72. *f.* 2, possibly no congener) refers to another narrow-leaved *Cameraria,* this may be named *C. retusa.*—A shrub 8′ high (*Mill.*); leaves $12'''-10'''$ long, $4'''-2'''$ broad; calyx $1'''$, corolla-tube $4'''$, lobes $2'''$ long; anthers oval, somewhat shorter than their flexuose appendage.—HAB. West Indies!, *Lane;* Jamaica (*Mill.*).

9. ANECHITES, *Gr.*

Calyx 5-partite. *Corolla* salver-shaped: tube subcylindrical. *Stamens* inserted into the middle of the corolla-tube: anthers oblong: connective produced at the summit into a short, setaceous appendage. *Disk* cupuliform, shortly 5-lobed, including the two ovaries: stigma indusiate with a large ring, pubescent, 2-partite into oblong, blunt segments. *Follicles* subcylindrical, many-seeded: seeds "with a terminal coma."—A scabrous vine; leaves *petioled, opposite, but single at the origin of the cymes;* cymes *racemiform, peduncled, opposite to the leaves:* pedicels *geminate:* flowers *white.*

This plant, presenting the habit and fruit of *Echites,* from which it is distinguished by the anthers polliniferous to their base, may be regarded as a link between *Echiteæ* and such genera as *Neriandra* or *Cameraria:* to the latter it approaches by the structure of the anthers, the stigma, and the sinistrorsely contorted corolla-lobes.

20. **A. asperuginis,** *Gr.*—Echites, *Sw.*!—Hispidulous; leaves $3''-2''$ long, ovate-oblong, cuspidate, arch-veined, membranaceous; racemes $1''-4''$ long, lax; calyx eglandular, $1\frac{1}{2}'''$, corolla-tube $3'''$, lobes $3'''$ long; anthers included, thrice as long as the filaments and the terminal mucro; follicles hispid, linear.—HAB. Jamaica!, *Sw.*, *Wils.*, in dry pastures near Bath; [Cuba!, Haiti].

10. VINCA, *L.*

Calyx 5-partite. *Corolla* salver-shaped, callous at the pubescent, narrow throat. *Stamens* inserted into the upper part of the corolla-tube. *Ovaries* 2, slightly cohering, alternating with 2 disk-glands: stigma indusiate. *Follicles* compressed-cylindrical, many-seeded.—Suffruticose herbs; flowers *axillary.*

21. **V. rosea,** *L.* Erect, puberulous; leaves spathulate-oblong; *flowers* geminate, subsessile, *rosy* (*or white*); calyx-segments lanceolate-acuminate, much shorter than the filiform corolla-tube; disk-glands oblong, exceeding the ovaries.—Flowering in the first year; corolla-tube $1''$ long, somewhat longer than the lobes.—HAB. Jamaica!, *M'Nab*, a weed; S. Kitts!, *Els.*, Antigua!, *Wullschl.;* [Cuba! and Mexico! to Brazil!; trop. Africa! and Asia! to China!]

11. PLUMIERIA, *L.*

Calyx broadly 5-lobed or subentire. *Corolla* large, perigynous, salver-shaped or infundi-

bular: tube narrow, often oblique. *Stamens* inserted into the lower part of the corolla-tube. *Ovaries* 2, free or slightly adhering to the narrow calyx-tube: style short: stigma 2-partite. *Follicles* compressed; seeds compressed, winged, with the wing usually terminal, exalbuminous or "with a thin albumen:" cotyledons broad.—Trees *or* shrubs; leaves *alternate:* veins *costate, connected by a juxtamarginal arch;* cymes *terminal:* flowers *usually fragrant, variable in size.*

22*. **P. rubra,** *L.* Leaves oblong or obovate-oblong, pointed, glabrous, petioled: petiole 2-glandular at the base; *cymes* pubescent (or glabrescent), *spreading,* jointed; calyx-lobes subtruncate; *corolla-lobes broadly oval,* longer than the tube; *stamens inserted near its base.*—*Sl. t.* 185, 186. *f.* 1. *Catesb. Carol.* 2. *t.* 92. *Tuss. Fl.* 3. *t.* 20. *Desc. Fl.* 4. *t.* 297.—A low tree or shrub; leaves 8″–5″, corolla-lobes 1″–1½″ long; flowers precocious, red.—Hab. Naturalized in Jamaica!, *Al.*, S. Kitts!, Barbadoes; [introduced from the continent: Mexico to Guiana!, Ecuador!].

23. **P. Tenorii,** *Gasparr.* Leaves large, oblong, mucronulate-blunt, glabrous, petioled: petiole long, eglandular; *cymes* glabrous, *contracted,* long-peduncled; calyx-lobes roundish; *corolla-lobes obovate-oblong or obovate,* twice as long as the tube: *stamens inserted near its base.*—P. bicolor, *Seem. Panam.* (*non R. Br.*).—Leaves 12″–10″, peduncles about 6″, corolla-lobes 10‴–12‴ long.—Hab. Jamaica!, *March* (who does not mention whether it be naturalized: but no other locality is as yet known).

24. **P. obtusa,** *L.* *Leaves* spathulate-oblong, oblong, or oblong-linear, rounded or mucronate at the top, *glabrous,* petioled: *veins obliquely transverse,* connected by an immersed network; *cymes* glabrous, *contracted,* long-peduncled; calyx-lobes rounded or mucronulate-truncate; *corolla-lobes spathulate-linear or oblong-linear,* usually longer than the tube: *stamens inserted below its middle.*—*Catesb. Carol.* 2. *t.* 93.—A variable tree or shrub; leaves 8″–3″, corolla-lobes 10‴–12‴ (6‴–18‴) long; flowers white.—Hab. Bahamas!, *Swains.*; Jamaica!, *March, Wullschl.*; [Cuba!].

25. **P. alba,** *L.* *Leaves* oblong-linear or linear, rounded or acuminate at the top, revolute at the margin, *tomentose* (or glabrous) *beneath,* petioled: *veins rectangular-transverse,* connected by a network, which is prominent beneath; *cymes spreading,* long-peduncled; calyx-lobes broadly rounded; *corolla-lobes obovate,* longer than or as long as the tube; *stamens inserted above its base.*—*Plum. Ed. Burm. t.* 231: the narrow-leaved form. *Jacq. Amer. Pict. t.* 31: the broader-leaved form. *Desc. Fl.* 3. *t.* 178.—P. hypoleuca, *Gasparr.*—A low tree; leaves variable; corolla white: lobes 12‴–8‴ long.—Hab. Antigua!, *Finl.*, *Wullschl.*, on maritime rocks; [Cuba! to French islands!].

11. ASPIDOSPERMA, *Mart.*

Calyx 5-partite. *Corolla* small, salver-shaped. *Stamens* inserted into the upper part of the corolla-tube. *Ovaries* 2: stigma thickened at the base, 2-fid. *Follicles* compressed: seeds falcate, compressed, winged, exalbuminous.—Trees; leaves *alternate;* cymes *many-flowered, terminal.*

26. **A. sessiliflorum,** *J. Müll.!* Glabrous; *leaves* chartaceous, oblong or lanceolate-oblong, blunt, *reticulated-archveined,* shortly petioled; cymes contracted-racemiform: *flowers glomerate,* shortly pedicellate; corolla-tube twice as long as the calyx, thrice as long as the ovate bluntish lobes; follicles semiovoid, 3-nerved, tubercled: *seeds oblong: cell as long as the terminal wing.*—Leaves shining above, undulate, 4″–2″, flowers 2‴, follicles 14‴ long.—Hab. S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 53, *Cr.*, at La Ventilla.

Series 2. **Echiteæ.**—*Connective enlarged, produced below the anther-cells. Seeds with a terminal coma (rarely devoid of it).*—Leaves opposite (or whorled). Calyx 5-partite. Ovaries 2: stigma indusiate. Follicles elongated.

12. MALOUETIA, *A. DC.*

Corolla salver-shaped, with minute scales at the throat: lobes dextrorsely contorted. *Stamens* inserted near the corolla-throat: anthers connivent-cohering: connective hastate

below the cells. *Disk* urceolate or glandular. *Follicles* cylindrical: seeds cylindrical, often hairy, devoid of a terminal coma.—Glabrous shrubs; cymes *umbelliform.*

27. **M. retroflexa,** *J. Müll.* Leaves ovate-oblong, pointleted; cymes few-flowered: pedicels much longer than the petioles; *calyx-segments linear, acuminate,* recurved; corolla-tube tapering above, as long as the linear lobes; anthers shortly exserted; disk 5-glandular. Habit of *Tabernæmontana;* leaves 4″–5″, calyx 1½‴, corolla-tube 4‴ long.—HAB. S. Vincent!, *Guild.*

13. FORSTERONIA, *Mey.*

Corolla rotate, naked: segments equilateral, sinistrorsely contorted. *Stamens* inserted into the corolla-tube: anthers exserted, connivent, adhering at the middle to the stigma, connective hastate below the cells. *Disk* 5-glandular. *Follicles* cylindrical: seeds with a terminal coma.—Climbing *or* trailing glabrous shrubs; leaves *leathery, petioled:* cymes *terminal, corymbiform.*

J. Müller's character of a dextrorsely contorted corolla does not agree with our genus, comprising Meyer's original species: hence on the difference of the æstivation (verified in several Brazilian and one West Indian species) and on some minor points, *Thyrsanthus,* Benth., which he had reduced to *Forsteronia,* may be restored.

28. **F. corymbosa,** *Mey.* Leaves elliptical, mucronate or blunt; *corolla crimson,* puberulous at the throat: *segments thrice as long as the tube;* stamens inserted into the middle of the corolla-tube; *anthers* thrice as long as the filaments, *wholly exserted;* disk-glands short.—*Jacq. Amer. Pict. t.* 37.—Echites, *Jacq.*—A climber; leaves 2″–1½″, corolla-segments 3‴, seeds 4‴ long: their coma rusty.—HAB. Jamaica!, *Wils.;* [Cuba! to Guiana!].

29. **F. Alexandri,** *Gr.* (*n. sp.*). Leaves elliptical-oblong, bluntish; *corolla whitish,* bearded at the throat: *lobes half as long again as the cylindrical tube;* stamens inserted into the middle of the corolla-tube: *anthers* four times as long as the filaments, *half-exserted;* disk-glands ovoid, as long as the ovaries.—A climber; leaves 2½″–2″ long; cymes sessile, as in the preceding; calyx 1‴ long, internally with minute glands at the base: segments lanceolate, bluntish; corolla-lobes 2‴ long; anthers narrow; follicles 8″–10″ long: seeds linear, puberulous, 5‴ long: coma pale-rusty.—HAB. Jamaica!, *Al., Pd.,* on trees, S. Thomas i. V.; [Cuba!].

30. **F. floribunda,** *G. Don* (*non J. Müll.*). Leaves oblong, bluntly mucronate; *corolla whitish,* glabrescent at the throat: *segments thrice as long as the campanulate tube; stamens inserted near the base of the corolla; anthers* twice as long as the filaments, *exserted above their base;* disk-glands subglobose, short.—Echites, *Sw.!*—A trailing shrub (*Sw.*); leaves 3″–2″, corolla-segments 2‴, seeds 5‴ long, the latter fusiform with a pale-rusty coma.—HAB. Jamaica!, *Sw., March,* among mountain-shrubs.

14. THYRSANTHUS, *Benth.*

(Forsteronia, *J. Müll.*)

Corolla infundibular or rotate, naked: lobes equilateral, dextrorsely contorted. *Stamens* inserted near the corolla-base: anthers connivent, cohering at the middle to the stigma, oblong: connective truncate-cordate below the cells. *Disk* 5-glandular. *Follicles* cylindrical: seeds with a terminal coma.—Shrubby climbers; flowers *small, paniculate:* panicle *usually terminal, thyrsoid or contracted.*

31. **T. Wilsonii,** *Gr.* (*n. sp.*). Glabrescent; leaves opposite, membranaceous, elliptical, pointleted, archveined, shortly petioled: secondary veins transverse; panicle puberulous, shortly ovate-thyrsoid: flowers glomerate, bracteolate; calyx-segments lanceolate-acuminate; corolla infundibular: lobes oblong, nearly as long as the tube; anthers included, membranaceous at the top, much longer than the filament.—Allied to *T. brasiliensis* (Forsteronia, *A. DC.*).—A "very fragrant, trailing" shrub; leaves 3″–2″, panicle about 1″ long; flowers small, numberless; connective cordate at the base; stigma fusiform, 2-fid at the top.—HAB. Jamaica!, *Wils., Pd.,* Manchester, on trees.

15. HÆMADICTYON, *Lindl.*

Corolla salver-shaped, produced into an annular plait at the throat: tube cylindrical: lobes oblique, dextrorsely contorted. *Stamens* inserted into the corolla-tube: anthers connivent, adhering at the middle to the stigma: connective hastate below the cells. *Disk* 5-glandular. *Follicles* linear: seeds with a terminal coma.—Shrubby climbers: flowers *cymose:* pedicels *geminate;* calyx *bearing scales on the inside.*

32. **H. venosum,** *Lindl.* Glabrescent; leaves ovate-oblong, cuspidate, archveined: primary veins distant: cymes axillary, few-flowered-racemiform: pedicels longer than the recurved short calyx; corolla devoid of appendages: lobes obliquely oblong, half as long as the tube; anthers included.—*Jacq. Amer. Pict. t.* 32. *Bot. Mag. t.* 2473. *Tuss.* 1. *Fl. t.* 11: the calyx too large.—Echites quinquangularis, *Jacq.* E. sanguinolenta, *Tuss.* H. nutans, *A. DC.* (Echites, *Anders.*).—Leaves 4″–5″, calyx 1‴, corolla-tube 8‴ long; pedicels recurved; flowers greenish-yellow.—Hab. Dominica!, *Imr.*, S. Vincent; Trinidad!, *Cr.;* [Haiti; New Granada].

16. ECHITES, *L.*

Corolla salver-shaped, naked: tube usually enlarged at the included stamens: lobes oblique, dextrorsely contorted. *Anthers* connivent, adhering at the middle to the stigma. *Disk* 5-glandular or 5-lobed, rarely subentire. *Follicles* linear or torulose: seeds with a terminal coma.—Shrubs, *rarely* herbs, *usually climbing;* cymes *axillary, usually corymbiform:* pedicels *often geminate.*

Sect. 1. Euechites, *A. DC. emend.*—*Corolla-tube subcylindrical. Coma sessile at the top of the seed; radicle slender, as long as the narrow cotyledons.*—Climbers, rarely trailing, or erect shrubs.

This section comprises *Echites, Mesechites,* and *Amblyanthera* of J. Müll.: the form of the anthers is more diversified than he admits, and the embryo, which he did not know in the two latter of his genera, has in *E. trifida* a slender radicle, and agrees nearly with his *Echites:* only the oblong-linear cotyledons are less foliaceous, and similar to those of *Rhabdadenia,* but flattish. In *E. neriandra* the cotyledons are linear and involute at the margin: this, though anomalous by the appendages of its anthers, belongs to *Urechites,* which, as well as *Rhabdadenia* (or *Laubertia,* A. DC.), has excellent characters in the seed, but, when in flower, is not to be distinguished from *Echites.*

* *Anthers oblong, blunt, with an inflexed mucro, 2-corniculate at the base.*

33. **E. torosa,** *Jacq.* Glabrous; leaves ovate-lanceolate, acuminate; cymes corymbiform: pedicels few, geminate; *calyx-segments* glandular, *devoid of an interior* scale, *ovate-lanceolate, acuminate,* one-fourth as long as the corolla-tube; corolla yellow: tube cylindrical, abruptly enlarged from the middle, half as long again as the lobes; *anthers oblong, blunt, with two narrow basilar appendages,* glabrous; follicles "torulose."—*Jacq. Amer. Pict. t.* 34.—Amblyanthera, *J. Müll.* E. torulosa, *Jacq., Sw. Obs.*—Leaves 2″, calyx 1½‴, corolla-tube 6‴, lobes 4‴ long.—Hab. Jamaica!, *M'Nab, Pd.,* in mountain-woods, Manchester, Liguanea (*Jacq.*).

** *Anthers oblong, blunt, with an inflexed mucro, cordate or subcordate at the base.*

34. **E. trifida,** *Jacq.* Glabrous; leaves ovate-oblong or oblong-lanceolate, mucronate; cymes axillary, contracted, exceeded by the leaves: *pedicels approximate in pairs* (or truncate); *calyx-segments ovate, blunt, furnished with an interior scale,* one-sixth as long as the corolla-tube; corolla greenish: tube cylindrical, abruptly enlarged above the middle, twice as long as the obovate lobes; *anthers oblong-lanceolate, bluntish, subcordate at the base,* glabrous; follicles cylindrical.—*Jacq Amer Pict. t.* 31.—Mesechites, *J. Müll.*—Leaves 4″–2″, calyx 2‴, corolla-tube 12‴, follicles 12″, seeds 8‴ long: coma rusty—Hab. Trinidad (*Sieb.*); [Panama! to Guiana! and equat. Brazil].

35. **E. subsagittata,** *R. P.* Pubescent or glabrate; leaves oblong or oblong-lanceolate, mucronate-acute, minutely cordate at the base; cymes racemiform, equalling the leaves: inferior *pedicels solitary; calyx-segments subulate, furnished with an interior scale,* one-

sixth as long as the corolla-tube; corolla orange-coloured: tube cylindrical, slightly enlarged from the middle, twice as long as the lobes; *anthers oblong, blunt, mucronate, cordate at the base,* glabrous; follicles torulose.—E. hirtella, *Kth. in Pl. Schiede!* E. microcalyx, *A. DC.!* (Amblyanthera, *J. Müll.*).—Leaves 2″–1″(–3″), calyx 1½‴, corolla-tube 9‴–12‴ long.—HAB. Trinidad!, *Lockh., Pd., Sieb. Tr.* 92, on dry banks and in hedges; [Mexico! to Venezuela and Peru!].

*** *Anthers rigid, tapering from the hastate or cordate base: point acuminate.*

36. **E. Brownei,** *J. Müll.* Glabrous; leaves small, ovate or oblong-lanceolate, pointed; cymes corymbiform: pedicels few, inferior single; *calyx-segments* glandular, *devoid of an interior scale, lanceolate-linear, recurved,* one-third as long as the corolla-tube; corolla-tube cylindrical, slightly enlarged at the middle, scarcely longer than the obliquely appendiculate lobes; *anthers* small, *acuminate from the cordate base,* glabrous; follicles linear, torulose.—*Br. Jam. t.* 16. *f.* 2.—E. torulosa, *L.* (*exclus. syn. Jacq.*).—Leaves 1″–2″, calyx 1½‴, corolla-tube 4‴, seeds 4‴ long: coma white.—HAB. Jamaica!, all coll., in arid places; [Haiti!; Venezuela!].

37. **E. repens,** *Jacq.* Glabrous, trailing or prostrate; leaves lanceolate or oblong-lanceolate, acuminate, simply arch-veined: arches juxtamarginal; *cymes few-flowered:* pedicels geminate; *calyx-segments* glandular, *devoid of an interior scale,* ovate-lanceolate, pointed, one-eighth to one-tenth *as long as the corolla-tube; corolla rosy: tube* cylindrical, abruptly *enlarged above the middle,* twice to thrice as long as the obversely deltoid lobes; *anthers* rigid, *acuminate from the hastate base,* glabrous; follicles "torulose."—*Jacq. Amer. Pict. t.* 35. *Desc. Fl.* 3. *t.* 192.—Leaves 1″–3″, calyx 1‴, corolla-tube 9‴ long.—HAB. Jamaica!, *M'Nab;* [Haiti!].

38. **E. circinalis,** *Sw.* (*non J. Müll.*). Glabrous; leaves elliptical-oblong, bluntly pointleted: veins costate, prominent beneath; *cymes many-flowered,* corymbiform; *calyx-segments* glandular, *devoid of an interior scale,* ovate, bluntish, *one-fourth as long as the corolla-tube; corolla white: tube* cylindrical, abruptly *enlarged near the summit,* twice as long as the oblong undulate lobes; *anthers acuminate from the hastate base,* glabrous.—E. adglutinata, *Jacq.* (*Amer. Pict. t.* 30), of which it is perhaps a variety, has mucronate blunt leaves, and longer corolla-lobes.—Leaves 6″–3″, calyx 1‴, corolla-tube 4‴ long.—HAB. S. Vincent!, *Guild.;* [Haiti!].

39. **E. umbellata,** *Jacq.* Glabrous; leaves ovate or ovate-roundish, mucronate, reticulated-archveined: arches juxtamarginal; *cymes* axillary, *umbelliform,* peduncled; *calyx-segments* glandular, *devoid of an interior scale,* subulate, one-eighth to one-twelfth as long as the corolla-tube; *corolla greenish-white: tube* cylindrical, *enlarged below the middle,* tapering again above, thrice as long as the stamens and 3–4 times as long as the obliquely obovate lobes; disk 5-lobed; *anthers* rigid, *acuminate from the hastate base,* glabrous: appendages and point somewhat bluntish; follicles compressed-cylindrical.—*Jacq. Amer. Pict. t.* 29. *Sl. t.* 131. *f.* 2. *Catesb. Carol.* 1. *t.* 58 *inf.*—Leaves 4″–1½″, calyx 1½‴, corolla-tube 14‴–18‴, follicles 6″ long.—HAB. Bahamas (*Catesb.*); Jamaica!, *Macf., Wullschl., March;* [Cuba!, Haiti!, Portorico!].

Sect. 2. SYNECHITES.—*Corolla-tube infundibular above a cylindrical base, hispid within below the stamens. Anthers oblong, bluntish, cordate at the base. Follicles "united at the summit before expansion" (Benth.): seeds of* Euechites.—Climbers; cymes spiciform.

40. **E. symphytocarpa,** *Mey.!* Branches pubescent; *leaves* oblong, mucronate, *cordate* with a narrow sinus at the base, pubescent beneath or nearly glabrous, archveined; pedicels alternate, exceeded by the lanceolate bract; *calyx-segments furnished with a short interior scale, subulate,* much shorter than the narrow part of the corolla; corolla yellow: tube enlarged from or above the middle; *anthers cordate, oblong,* glabrous; follicles torulose.—E. brachystachya *et* rugosa, *Benth.* E. versicolor (Amblyanthera, *J. Müll.*) E. tenuicaulis, *Stadelm.*—Allied to *E. tomentosa,* V. (Ic. t. 4.: syn. *E. lasiocarpa,* Stadelm., Seem. Panam.!), which has a much longer calyx. Very variable in the down, the form of the leaves, and the size of the flowers. Leaves 5″–2″, calyx 1½‴, corolla-tube 1½″–2″ long.—HAB. Trinidad!, *Pd., Cr.,* at Irais; [Guiana! to Brazil!].

Sect. 3. LAUBERTIA, *A. DC.* (Rhabdadenia, *J. Müll.*).—*Corolla-tube campanulate above its cylindrical base, hispid within below the stamens. Seeds terminated with a long beak, which is longitudinally comose down to the base. Cotyledons half-cylindrical, nearly as long as the slender radicle.*—Climbers or trailing shrubs.

41. **E. biflora,** *Jacq.* Glabrous; leaves oval or obovate-oblong, blunt, mucronulate: veins delicate, costate; cymes peduncled, 2(–3–1)-flowered; *calyx-segments* eglandular, devoid of an interior scale, *ovate, pointed,* one-eighth to one-fifth as long as the narrow part of the corolla-tube; corolla white: campanulate part of its tube nearly as long as the cylindrical base and as the broad lobes; *anthers oblong-lanceolate, bluntish, rounded-cordate at the base,* hirsute on the back above; follicles "cylindrical."—*Jacq. Amer. Pict. t.* 28.—Rhabdadenia, *J. Müll.*—A high trailing shrub; leaves 2½″–1½″, calyx 1‴–1½‴, corolla-tube 1½″ long.—HAB. Caribbean Islands!, in mangrove-woods; Trinidad!, *Cr.*; [Venezuela, Guiana! to Brazil].

42. **E. paludosa,** *V.* Glabrous; leaves oblong, oval-oblong, or lanceolate-oblong, rounded towards the mucronate top: veins delicate, costate; cymes long-peduncled, few-flowered; *calyx-segments* glandular at the base, devoid of an interior scale, *oblong, mucronate-blunt, spreading,* one-half to one-fourth as long as the narrow part of the corolla-tube: upper part of the latter obconical, nearly as long as the cylindrical base and as the broad lobes; *anthers oblong-lanceolate, acuminate, rounded-cordate at the base,* hirsute on the back above; follicles cylindrical, substriate: seeds very long.—*Vahl, Ic. t.* 5.—E. Ehrenbergii, *Schlecht.* (Rhabdadenia, *J. Müll.*). E. concolor, *Ham.*—Leaves 3″–1½″, calyx 3‴–4‴, corolla-tube 1½″, anthers 2‴, follicles 3″–4″, seeds 1″, their white coma 20‴ long.—HAB. Bahamas!, *Swains.*; Jamaica!, *Dist., Pd., March,* in marshy ground, Manchester; [Cuba!, Haiti!; Panama!].

43. **E. Sagræi,** *A. DC.* Branches pubescent, glabrate; leaves small, oval or oval-oblong, blunt, mucronulate, rounded or subcordate at the base, shortly petioled; cymes peduncled, shortly racemiform or few-flowered; *calyx-segments* glandular, devoid of an interior scale, *subulate,* one-third to one-fourth as long as the shortly cylindrical corolla-base, which is half as long as its campanulate part, the latter as long as the broad lobes; *anthers oblong-lanceolate, bluntish, 2-corniculate at the base* with narrow appendages, hirsute on the back above; follicles "cylindrical."—Rhabdadenia, *J. Müll.* E. ferruginea, *Rich.*—Leaves 12‴–6‴, calyx 1‴, corolla-tube about 8‴ long; disk 5-crenate, including the ovaries.—HAB. Bahamas!, *Swains.*; [Cuba!].

Sect. 4. URECHITES, *J. Müll.*—*Corolla-tube campanulate above its cylindrical base. Anthers corneous, hastate, with narrow, bluntish, rigid auricles, acuminate from the base, confined to the lower part of the campanulate portion of the corolla, or with a long, membranaceous, terminal appendage. Seeds loosely involute within an acuminate placentary scale, terminated by a long filiform beak, which is naked below and longitudinally comose above. Cotyledons linear, involute at the margin, as long as the slender radicle.*—Climbers or trailing shrubs; petioles jointed near or at the base.

44. **E. neriandra,** *Gr.* Climbing, pubescent; *leaves* obovate-oblong, oval or oval-oblong, *blunt or bluntish,* often mucronate; cymes corymbiform, few-flowered; *calyx-segments* glandular, devoid of an interior scale, *linear-acuminate, as long as the narrow part of the corolla-tube;* corolla yellow: campanulate part of the tube thrice as long as its cylindrical base, little longer than its broadly obovate lobes; *anthers abruptly terminated by a linear twisted appendage,* slightly hairy on the back; follicles cylindrical, incurved, substriate: *seeds as long as the naked part of their beak.*—*Bot. Repos.* 3. *t.* 187. *Bot. Mag. t.* 1064.—E. suberecta, *Sw.* (*non Jacq.*). Neriandra suberecta, *A. DC.*: but the æstivation is that of *Echites.* Vinca lutea, *L.*, or E. Catesbæi, *G. Don* (*ex Catesb.* 2. *t.* 53) is probably the same, but not sufficiently described.—Leaves 2½″–1½″, calyx 3‴–4‴, narrow part of the corolla 4‴–5‴, campanulate part 1″, anthers 3‴, their appendage 5‴, follicles 8″: seeds (without the beak) 3‴ long; corolla usually pubescent.—HAB. Bahamas!, *Swains.*; Jamaica!, *Al., March, Wullschl.,* among shrubs along the arid coast; S. Vincent (*Audr.*); [Cuba! to S. Thomas!].

45. **E. suberecta,** *Jacq.* Trailing, pubescent or glabrate; *leaves* oval-oblong or oblong, *bluntish or blunt;* cymes corymbiform; *calyx-segments* glandular, devoid of an in-

terior scale, *linear-acuminate, as long as the narrow part of the corolla-tube;* corolla yellow: campanulate part of the tube thrice as long as its cylindrical base, little longer than its broadly ovate lobes; *anthers devoid of a terminal appendage,* slightly hairy or glabrescent on the back; follicles cylindrical, incurved, striate: *seeds much longer than the short naked part of their beak.*—*Sl. t.* 130. *f.* 2. *Jacq. Amer. Pict. t.* 33.—Urechites, *J. Müll.*—Proportions of the flower as in the preceding, but growth said to be lower and more erect.—HAB. Jamaica! (*Jacq.*), at Kingston; [Cuba!, Haiti].

46. **E. jamaicensis,** *Gr.* Branchlets climbing, pilose or glabrescent; *leaves* cordate-ovate or ovate-oblong, glabrescent, *pointleted or pointed,* shortly petioled; cymes corymbiform; *calyx-segments* devoid of an interior scale, *lanceolate-acuminate from an ovate base, one-third to one-fourth as long as the narrow part of the corolla-tube;* corolla yellow: campanulate part of the tube thrice as long as its cylindrical base, twice as long as the broad lobes; *anthers devoid of a terminal appendage,* slightly hairy on the back above; follicles cylindrical, acuminate, slightly torulose, slender, straightish, substriate: *seeds much longer than the short naked part of their beak.*—E. domingensis, *Sw.* (*non Jacq.*): compared in Herb. Bks. by Dr. Alexander, but Swartz in his description apparently confounded it with *E. neriandra.*—Leaves 2″–1″, calyx 1‴–2‴, narrow part of the corolla 4‴–5‴, campanulate part about 1″, anthers 2‴, follicles 5″–8″, seeds (without the beak) 3‴ long; corolla glabrescent, internally hispid below the stamens.—HAB. Bahamas!, *Swains.;* Jamaica!, *Macf., Al., Lane, Pd., March,* Manchester, S. Marys, among shrubs along the coast; [Cuba!, Haiti!].

E. barbata, Desv. (Haiti!, S. Thomas!), is an allied species (calyx-segments pilose, lanceolate-acuminate, exceeding the narrow part of the corolla-tube, anthers densely pubescent on the back): from its variable leaves it might be *E. domingensis,* A. DC., but has broader calyx-segments than *E. domingensis,* Jacq. (Ic. Rar. t. 53): *E. suberecta,* Desc. (Fl. 7. t. 468), said to grow in Jamaica, is perhaps a synonym of *E. barbata.*

17. ODONTADENIA, *Benth.*

Character of *Echites,* but disk many-lobed, urceolate, and follicles "oblong" (Benth.): "seeds comose" (Duchass.).—Climbers; leaf-veins *costate, secondary ones transverse;* cymes *axillary, corymbiform;* corolla *large, yellow:* tube *infundibular;* anthers *corneous, hastate, longitudinally pubescent on the back.*

47. **O. speciosa,** *Benth.!* Glabrous; *leaves elliptical-oblong,* pointleted; calyx-segments broadly ovate, blunt or bluntish; *infundibular part of the corolla separated by a stricture from its ovoid much shorter base,* little longer than the broad lobes; anthers sericeous-pilose on the back.—*Bot. Mag. t.* 4825.—Echites grandiflora, *Mey.!* (Hæmadictyon, *A. DC.*). Dipladenia Harrisii, *Hook.!*—Leaves 8″–6″, calyx 3‴, corolla-tube 2″–1½″ long.—HAB. Trinidad!, *Pd.,* in savannahs, near the swamps of Nariva and on the upper Coroni; [Costarica, Panama!, Guiana!, equat. Brazil].

48. **O. nitida,** *J. Müll.* Glabrous; *leaves oblong, minutely cordate at the base,* shining above, glabrescent beneath; calyx-segments ovate-oblong, bluntish; *infundibular part of the corolla narrow, thrice as long as the cylindrical base,* about twice as long as the lobes; anthers pubescent on the back.—*Vahl, Eclog. t.* 13.—Echites, *V.* O. cordata, *A. DC.*—Leaves 4″–3″, calyx 1½‴–3‴, corolla-tube 1½″–1″ long.—HAB. Trinidad!, *Lane, Lockh., Cr.,* Pitch Lake, La Brea; [Guiana!, equat. Brazil!].

CX. ASCLEPIADEÆ.

Character of *Apocyneæ,* but pollen compound, usually forming wax-like masses (the pollinaria), which, having a glandular appendage, are connected with the stigma by 5 projections of the latter.—Inflorescence *usually umbellate;* stamens *mostly connected:* pollinaria *in the West Indian genera* 10, *the two contiguous ones of adjacent anthers united by a common gland;* anthers *terminated by a membrane, and* inflorescence *extra-axillary.*

The properties are the same as in *Apocyneæ*. *Asclepias* affords a diaphoretic medicine (Bastard Ipecacuanha).

The East Indian *Cryptostegia grandiflora,* R. Br. (India-rubber Vine), occurs in Mr.

March's Jamaica collection as an introduced plant. By its *Echites*-like habit and powdery pollen it connects *Asclepiadeæ* with the foregoing Order.

1. METASTELMA, *R. Br.*

Calyx 5-leaved. *Corolla* small, shortly campanulate, valvate: crown 5-leaved, either inserted into the corolla-throat and decurrent into the angles of the column or into the column below the anthers and decurrent into the corolla-base. *Pollinaria* hanging from the base of the gland. *Stigma* depressed. *Follicles* smooth: seeds comose.—Slender, suffruticose climbers; umbels *few-flowered;* corolla-lobes *usually puberulous within.*

Sect. 1. Eumetastelma.—*Crown inserted into the corolla.*

1. **M. parviflorum,** *R. Br.* Glabrescent; leaves ovate-oblong or oblong, mucronate-blunt; *umbels sessile;* corolla-lobes linear-oblong, exceeding the crown, twice as long as the tube: *crown-leaflets linear, twice as long as the subsessile column.*—Cynanchum, *Sw.*—Leaves 8'''–16''', white corolla 1''' long.—Hab. Jamaica!, *Pd.*, *March,* in hedges; Antigua!, *Nichols.;* Trinidad (*Sieb.*); [Haiti to Venezuela! and New Granada!].

2. **M. albiflorum,** *Gr.* (*n. sp.*). Branchlets and pedicels puberulous or glabrate; leaves ovate-lanceolate or lanceolate, pointed-mucronate; *umbels subsessile* or their peduncle shorter than the petiole; corolla-lobes oblong-linear, twice as long as the tube and the crown; *crown-leaflets linear, equalling the subsessile column.*—Leaves 6'''–10''', petioles 1'''–2''', peduncles 1''' long (or none); pedicels 1'''–2''', corolla 1''' long.—Hab. Jamaica!, *March;* [S. Thomas!].

3. **M. Schlechtendalii,** *Decs.* Branchlets and pedicels puberulous or glabrate; leaves ovate-lanceolate, pointed-mucronate; *umbels peduncled:* peduncle equalling or exceeding the petiole; corolla-lobes oblong-linear, twice as long as the tube and the crown: *crown-leaflets linear, equalling the stipitate column: column-stalk as long as the anthers.*—Leaves 6'''–12''', peduncles 4'''–6''', pedicels 2''', corolla 1''' long.—Hab. Jamaica!, *Pd.;* [Caribbean Islands!; Mexico! to Venezuela!].

4. **M. Paralias,** *Decs.* Glabrescent; leaves ovate, cuspidate-mucronate; *umbels sessile;* corolla-lobes oblong-linear, twice as long as the tube, exceeding the crown; *crown-leaflets linear, equalling the long-stipitate column: column* dilated above, *stalk about thrice as long as the anthers.*—Leaves 8'''–16''', pedicels 2''', corolla 1''' long.—Hab. Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [S. Martin, Guadeloupe!].

5. **M. suberosum,** *Gr.* Puberulous or glabrate; leaves ovate-lanceolate, mucronulate-pointed; umbels peduncled or subsessile; corolla-lobes linear-oblong, puberulous within at the thickish margin, twice as long as the urceolate tube, exceeding the crown; *crown-leaflets linear, exceeding the long-stipitate column: column* dilated above, *stalk six times as long as the anthers.*—Orthosia, *spec. Desc. in Hb. Hook.*—Flowers twice as long as in all the preceding species. Leaves 1'', peduncles 1'''–3''', pedicels 1'''–2''' long; sepals ovate, half as long as the ovoid corolla-tube; corolla 2''' long: lobes one-third longer than the crown: crown-leaflets flat, inserted between them, decurrent along the corolla-tube into the dilated base of the column; column slender, 1½''' long; follicles linear-acuminate, 1½'' long—Hab. Dominica!, *Imr.;* Trinidad!, *Lockh.*, in dry gravelly soil; [Venezuela].

Sect. 2. Epicion.—*Crown inserted below the anthers into the column.*

6. **M. cubense,** *Decs.* Glabrous; leaves oval or oval-roundish, mucronate; peduncles short, 2–3-flowered; corolla-lobes ovate-oblong, pointed, glabrous within the induplicate margin, thrice as long as the ovate tube, twice as long as the column; *crown-leaflets lanceolate,* internally keeled, *including the anthers,* decurrent along the column into the keels of the corolla-tube; column cylindrical, stalk thickish, four times as long as the anthers.—Leaves 12'''–6''', peduncles 2''', pedicels 2''', flowers 2½''' long; sepals ovate, blunt, half as long as the corolla-tube.—Hab. Bahamas!, *Swains.;* [Cuba].

2. AMPHISTELMA, *Gr.*

(Vincetoxicum, sp. american., *Decs.*)

Calyx 5-leaved. *Corolla* small, rotate, 5-partite, slightly contorted: crown 5-leaved or

5-partite, inserted into the column below the anthers: leaflets foliaceous, not decurrent. *Pollinaria* ovoid, hanging with a curved tail from the base of the gland. *Stigma* depressed, with 2 blunt points. *Follicles* smooth, linear: seeds comose.—Suffrutescent branched climbers, *often nearly aphyllous*; leaves *opposite*; umbels *few-flowered, sessile or subsessile*; corolla-segments *glabrous*.

7. **A. filiforme,** *Gr.* (*n. sp.*). Glabrous, diffuse-twining; *leaves linear*, tapering into the petiole, pointed; pedicels short, about 2–4 times as long as the minute flower; sepals oval; corolla-segments oblong-linear, blunt; *crown-leaflets oval, blunt*, equalling the anthers, longer than the short column-stalk.—Metastelma linearifolium, *Rich.* (*Cub. t.* 57), is perhaps an allied species, but has (in the figure) pointed crown-leaflets and a much longer column-stalk. Several feet high, at length aphyllous; branches cylindrical, thin, but growing woody: internodes about 2″, leaves $1\frac{1}{2}$″(–$\frac{1}{2}$″), 3–5-nate pedicels 2‴ long; calyx scarcely exceeding the short corolla-tube; corolla-segments $\frac{3}{4}$‴ long, horizontally expanded; follicles linear-acuminate, minutely truncate at the summit, $1\frac{1}{2}$″, seeds $1\frac{1}{2}$‴ long, the latter half as long as the silky-white terminal coma.—Hab. Jamaica!, *Al.*, *M'Nab*, *March*, *Wullschl.*, common; [Cuba!].

8. **A. leptocladon,** *Gr.* Branches elongated, glabrous; *leaves oblong or linear-oblong*, mucronate, petioled; pedicels puberulous, exceeding the petiole, 3–4 times as long as the minute flower; sepals oval-roundish; corolla-segments ovate-oblong, bluntish; *crown-segments bluntly deltoid-roundish*, equalling the anthers, longer than the short column-stalk.—Vincetoxicum, *Decs.* Cynanchum funale, *Poir.?*—Stem twining, with filiform trailing branches: internodes often 2″ long; leaves 4‴–6‴ long, $1\frac{1}{2}$‴–2‴ broad; pedicels 2‴–3‴, corolla 1‴ long.—Hab. Jamaica!, *March*; [Haiti].

3. SEUTERA, *Reichenb.*

Calyx 5-leaved. *Corolla* rotate, 5-partite, dextrorsely contorted. *Crown* 5-leaved, foliaceous, inserted into the subsessile column below the anthers. *Pollinaria* ovoid, tailed, hanging from the base of the gland. *Stigma* conical, entire. *Follicles* smooth, lanceolate-acuminate: seeds comose.—A twining, filiform, glabrous herb; leaves *opposite, linear, acuminate, subsessile*: pairs *distant*; umbels *peduncled*.

9. **S. maritima,** *Reichenb.*—Lyonia, *Ell.*—Leaves 2″–1″, peduncles 1″–$\frac{1}{2}$″, pedicels 1‴–2‴, corolla-segments 2‴, puberulous follicles 2″ long; sepals minute, lanceolate, ciliate; corolla-segments ovate-lanceolate, twice as long as the column; crown-leaflets oblong, retuse, or blunt, a little exceeding the anthers.—Hab. Bahamas!, *Swains.*; [South Carolina, among Halophytes; Florida!, Texas!].

4. ENSLENIA, *Nutt.*

Calyx 5-partite. *Corolla* rotate, 5-partite, slightly contorted: crown 5-leaved, inserted into the subsessile column below the anthers: leaflets foliaceous, hastate. *Pollinaria* ovoid, pendulous: tail horizontal, inserted into the gland above its base. *Stigma* depressed, with 2 minute points. *Follicles* "oblong-lanceolate, smooth: seeds comose."—Twining, glabrescent herbs; leaves *opposite, cordate with an open sinus, long-petioled*; flowers *corymbose*: corymbs peduncled.

10. **E. jamaicensis,** *Gr.* (*n. sp.*). Leaves mucronate-bluntish; *crown-leaflets broadly hastate: terminal lobe ligulate, entire*, shortly emarginate.—Habit and most characters of *E. albida*, Nutt., but leaves rounded towards the pointleted or mucronate summit, and crown awnless: *Cynanchum racemosum*, Jacq. (Amer. Pict. t. 80, or *Roulinia Jacquini*, Decs.), from its figure is another nearly allied congener. Leaves 3″–4″ long, 2″–$2\frac{1}{2}$″ broad; peduncles as long as the petioles; sepals oblong, 1‴ long; corolla-segments oblong-linear, expanded, 3‴ long, twice as long as the column; roundish-quadrate base of the crown-leaflets as long as the linear, incurved, terminal lobe.—Hab. Jamaica!, *Wils.*

5. ASCLEPIAS, *L.*

Calyx 5-partite. *Corolla* 5-partite, reflexed, valvate: crown 5-leaved, inserted into the summit of the short column-stalk: leaflets cucullate with an incurved appendage proceed-

ing from the concavity. *Pollinaria* obovate, compressed, tailed, hanging. *Stigma* depressed. *Follicles* ovate or lanceolate: seeds comose.—Erect, perennial herbs; umbels *peduncled, many-flowered, inserted between the superior leaves or terminal.*

11. **A. curassavica,** *L.* Stem puberulous; leaves opposite, oblong-lanceolate or lanceolate, acuminate, petioled, glabrescent; pedicels 5–12, 3–4 times as long as the *crimson flowers;* corolla-segments elliptical, pointed; column abruptly stipitate; *appendages of the* ovate-oblong, *orange-coloured cuculli lanceolate-falcate,* shortly exserted; follicles oblong-lanceolate, smooth.—*Sl. t.* 129. *f.* 4, 5; *Desc. Fl.* 2. *t.* 116.—1′–3′ high; corolla-segments 3‴–2‴ long.—HAB. Jamaica!, all coll., a common weed; all Caribbean Islands; [Cuba! and Mexico! to Brazil!; introduced into all tropical countries and the Canary Islands!].

12. **A. nivea,** *L.* Puberulous; leaves opposite, oblong-lanceolate or lanceolate, acuminate, petioled; pedicels 5–12, 3–4 times as long as the *greenish-white flowers;* corolla-segments elliptical, bluntish; column abruptly stipitate; *appendages of the* ovate-oblong, *white cuculli linear-falcate,* exserted; follicles lanceolate, smooth.—*Bot. Mag. t.* 1181.—Corolla usually smaller, and follicles narrower than in the preceding.—HAB. Jamaica!, all coll.; [Cuba! to S. Thomas; Louisiana].

6*. GOMPHOCARPUS, *R. Br.*

Character of *Asclepias,* but crown-leaflets devoid of an inner hook, unidentate at the base on both sides, and follicles ventricose, usually echinate.—Shrubs or erect herbs; leaves *opposite.*

13*. **G. fruticosus,** *R. Br.* Shrubby; branches pubescent; leaves lanceolate-linear, mucronate, petioled, glabrescent; pedicels 6–12, slender, hoary-pubescent; corolla-segments elliptical, white; cuculli subtruncate: teeth ascending.—4′–6′ high; corolla-segments reflexed, 3‴ long; column shortly stalked; follicles echinate, incurved-ovoid.—HAB. Naturalized in Jamaica!, *March,* in the mountains of S. Andrews; [introduced from Arabia].

7. SARCOSTEMMA, *R. Br.*

Calyx 5-partite. *Corolla* rotate, 5-partite or 5-lobed, slightly contorted: crown double, exterior annular or shortly cyathiform, undulate or crenate, connecting the column and the tube, interior larger, 5-leaved, inserted below the anthers. *Pollinaria* clavate-cylindrical, hanging: tail short, ascending, inserted into the basilar mucro of the deltoid-roundish gland. *Stigma* prominent, entire or 2-fid. *Follicles* smooth: seeds comose.—Leaves *opposite* (*or none*); umbels *lateral or terminal.*

14. **S. Brownei,** *Mey.!* Twining, herbaceous, pubescent or glabrate; leaves ovate-oblong or lanceolate, acuminate or mucronate, blunt at the glanduliferous, petioled base; *peduncles exceeding the leaves:* umbel many-flowered, pubescent; *corolla 5-partite,* white: *segments ovate,* bluntish or blunt; exterior crown annular, subentire, interior leaflets oval, peltate at the base, a little exceeding the column; stigma conical, subentire; follicles ovate-lanceolate.—*Sl. t.* 131. *f.* 1.—Asclepias viminalis, *Sw.* S. Swartzianum, *R. S.* Gonolobus hirtus, *Pl. Bertero!*—I exclude Jacq. Amer. Pict. t. 87 (*Cynanchum clausum*), which agrees better with the allied *S. glaucum,* Kth.—A high climber; leaves 1″–2½″, corolla 6‴–7‴ diam.—HAB. Jamaica!, all coll., among shrubs, Kingston, Manchester; [Cuba!, Haiti!; Guatemala!, Guiana!].

8. OXYPETALUM, *R. Br.*

Calyx 5-partite. *Corolla-tube* shortly campanulate: limb 5-partite, slightly contorted: crown 5-leaved, inserted below the anthers. *Pollinaria* clavate-cylindrical, hanging: tail short, horizontal with an ascending spur, inserted into the deltoid-constricted base of the oblong gland. *Stigma* prominent: acumen large, usually deeply bifid. *Follicles* oblong-lanceolate: seeds comose.—Leaves *opposite;* peduncles *few-flowered:* flowers large.

15. **O. riparium,** *Kth.* Suffruticose, twining, pubescent; leaves cordate-acuminate; peduncles 3–1-flowered, nearly as long as the leaves; *corolla-lobes subulate-filiform, acuminate,* 3–5 *times as long as the tube;* crown-leaflets roundish, crenulate, internally corniculate at the base; stigma deeply bifid: beaks diverging, cylindrical-acuminate.—*Kth. N. Gen.*

t. 231.—Leaves 2″–4″ long; corolla whitish, 1½″ diam.: tube equalling the linear calyx-segments; follicles 3″ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Waters*, S. George's Gap; [Cuba! and Mexico! to Ecuador! and Brazil].

9*. CALOTROPIS, *R. Br.*

Calyx 5-partite. *Corolla* 5-partite, valvate: crown 5-leaved, vertically inserted into the column: leaflets complicate, with an ascending spur on the back. *Pollinaria* compressed, spathulate, diverging-pendulous: tail curved, horizontal at the base, inserted into the base of the small gland. *Stigma* depressed. *Follicles* ventricose, smooth: seeds comose.—Erect, glabrous shrubs; leaves *broad;* corymbs *peduncled:* flowers *large.*

16*. **C. procera,** *R. Br.* Leaves obovate-oblong or obovate-roundish, cordate at the subsessile base; corolla spreading; *crown-leaflets* incurved, *as long as the prismatical* column.—*Jacq. Amer. Pict. t.* 88.—Asclepias gigantea, *Jacq.*—6′ high; leaves 6″–8″ long; corolla white, red-tinged within, 1″ diam.—HAB. Naturalized in Jamaica (*Jacq.*), common in savannahs, Kingston; Antigua!, *Nichols.*, *Wullschl.;* [trop. Africa! to Egypt!, Afghanistan! and East Indies!; introduced into trop. America!].

10. GONOLOBUS, *Mich.*

Calyx 5-partite. *Corolla* rotate, 5-partite or 5-lobed, contorted: crown annular, connecting the column and the corolla-throat. *Anthers* transversely dehiscent: pollinaria obovate, tailed, horizontal. *Stigma* depressed. *Follicles* ventricose: seeds comose.—Climbers; flowers *corymbose, often few, rarely single.*

17. **G. rostratus,** *R. Br.* Pilose with recurved down; *leaves cordate* with a narrow sinus, ovate-oblong above the base, pointleted; peduncles 4–5-flowered: pedicels slender; *calyx* slightly hairy, one-third to a quarter as long as the corolla: *segments ovate, pointed; corolla* 5-partite, slightly hairy: *segments lanceolate-linear, acuminate.*—*Vahl, Ic. t.* 7.—Cynanchum, *V.*—Leaves 4″–2½″ long; corolla 1″ diam.—HAB. Trinidad!, *Cr.*, La Ventilla; [Venezuela].

18. **G. martinicensis,** *Decs.* Branches pilose or glabrescent; *leaves cordate* with an open sinus, ovate-oblong above the base, pointleted; corymbs umbelliform, peduncled: pedicels slender; *calyx* glabrescent, one-third to one-half as long as the corolla: *segments lanceolate, acuminate; corolla* 5-partite, glabrous: *segments lanceolate-acuminate:* crown short, glabrous, undulate-subentire.—Leaves 4″ long; corolla 10‴ diam., beaked in the bud, greenish.—HAB. Dominica!, *Imr.;* [Martinique].

19. **G. stellatus,** *Gr.* (*n. sp.*). Glabrous; *leaves* elliptical or lanceolate-elliptical, *pointed at both ends;* peduncles few–1-flowered, nearly as long as the slender petiole; *calyx one-third as long as the corolla,* spreading from the beaked-conical bud: *segments lanceolate, acuminate; corolla* 5-partite: *segments lanceolate-acuminate;* crown urceolate, glabrous: margin lobed.—Stem filiform, climbing; leaves 2½″–1½″, petiole 12‴–6‴ long; peduncle much shorter than the pedicels; corolla 20‴–16‴ diam.: segments 2‴ broad at the base, somewhat bluntish at the point, greenish, slightly papillose near the margin within.—HAB. Jamaica!, *Pd.*, Manchester, rare, near Knockpatrick.

20. **G. pubescens,** *Gr.* (*n. sp.*). Branches densely hispidulous-pubescent with recurved down; *leaves* small, ovate-oblong, mucronate, *rounded or bluntish at the base, densely pubescent;* peduncles 1(–2)-flowered, short, nearly as long as the petiole; bud subglobose; *calyx half as long as the corolla,* hispidulous: *segments lanceolate, bluntish; corolla* deeply 5-lobed, glabrous: *lobes ovate-deltoid, bluntish,* internally papillose near the point; crown crenulate-lobed.—Stem filiform, climbing; leaves 8‴–18‴, petiole 2‴–3‴ long; corolla marmorated with veins, 2‴–3‴ diam.: crown fleshy, inserted into the base of the short column, nearly distinct from the corolla-tube; stigma flat, 5-corniculate at the margin.—HAB. Jamaica!, *Macf.*

21. **G. rhamnifolius,** *Gr.* (*n. sp.*). Branches puberulous, glabrescent; *leaves* ovate-oblong, cuspidate or mucronate, *rounded at the base, glabrous;* corymbs umbelliform, subsessile, as long as the petiole; bud ovate-subglobose; *calyx one-third as long as the corolla,* puberulous: *segments ovate-oblong, blunt; corolla* deeply 5-lobed, glabrous: *segments*

ovate-oblong, bluntish; crown short, crenulate.—Habit of *G. undulatus*, R. Br., nearly allied to the preceding, but a shrubby climber; leaves 3″–2″, petiole 4‴–3‴ long; corymbs 5–10-flowered; corolla veiny, 4‴ diam., reflexed.—HAB. Jamaica!, *Al.*, S. Anns, near Moneague.

11. IBATIA, *Decs.*

Calyx 5-partite. *Corolla* rotate, 5-partite, slightly contorted: crown scutellate, 15-crenate, inserted into the short column. *Anthers* transversely dehiscent: pollinaria ovoid-oblong, parallel to the oblong gland, tailed at the middle: tail short, transverse, inserted into the base of the gland. *Stigma* flat, with a central, long, subuliform point. *Follicles* ventricose: seeds comose.—Densely pubescent climbers; leaves *cordate;* flowers *fascicled.*

22. **I. muricata,** *Gr.* Leaves cordate-deltoid, cuspidate, hispidulous above, hoary-tomentose beneath; fascicles much exceeded by the petiole; corolla pubescent: segments ovate, blunt; *stigma subentire at the thickened point;* follicles ovate, echinate, glabrescent.—*Bot. Reg. t.* 931; *Desc. Fl.* 3. *t.* 189.—Echites, *A. DC.* Gonolobus maritimus, *Bot. Reg.* (*non Cynanchum,* Jacq.). G. floccosus, *Wickstr.* J. maritima, *Decs.! ex parte.*—Pedicels 2‴–3‴, follicles 3″ long; corolla 3‴ diam.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.;* [Guadeloupe!; Venezuela!].

12. FISCHERIA, *DC.*

Calyx 5-partite. *Corolla* rotate, 5-partite, contorted: crown annular, simple, or "double," inserted into the base of the column. *Anthers* transversely dehiscent, produced into a dorsal, fleshy appendage: pollinaria obovate, horizontal. *Stigma* depressed. *Follicles* "ventricose."—Climbers; flowers *in peduncled corymbs:* corolla *usually crisped at the margin.*

23. **F. scandens,** *DC.* *Branches velvety;* leaves ovate, mucronate, minutely cordate at the base with superincumbent auricles, slightly hairy above, velvety beneath; *corymbs many-flowered:* peduncle equalling the leaf; *calyx-segments ovate, pointed,* half as long as the corolla; *corolla-segments* ovate, bluntish, *pubescent,* crisped; crown simple, subentire; appendages of the anthers obovoid.—*Deless. Ic.* 5. *t.* 77.—Cynanchum crispiflorum, *Sw.* (Gonolobus, *R. Br.*).—Leaves 6″–3″, petiole 18‴–6‴ long; corolla 6‴ diam.; pollinaria tailed, opaque nearly to the base of the tail.—HAB. Jamaica!, all coll., among shrubs; [Cuba!].

24. **F. multiflora,** *Decs.* *Branches hispid;* leaves elliptical, pointleted, minutely cordate at the base with a narrow sinus, velvety-pubescent; *corymbs many-flowered:* peduncle exceeding the leaf; *calyx-segments lanceolate-linear,* exceeded by the corolla; *corolla-segments* ovate-oblong, bluntish, *internally pilose,* crisped; appendages of the anthers obovoid.—Leaves 4″–3″, petiole 1″ long; corolla 8‴ diam.—HAB. Trinidad!, *Pd.*, *Cr.*, rare in woods, Arima; [Brazil].

25. **F. cincta,** *Gr.* (*n. sp.*). Branches sparingly pilose; leaves lanceolate-elliptical, pointleted, callous at the tapering base, revolute at the margin, glabrescent with scattered hairs above: under side pale, pilose on the midrib and the costate distant veins; *peduncles 2–1-flowered,* exceeding the petiole; calyx-segments lanceolate, half as long as the corolla; *corolla-segments* ovate-oblong, bluntish, *glabrous, furnished with a prominent, tomentose ring around the throat,* slightly crisped near the top; *anthers* obliquely transverse, *as long as their oblong,* blunt, flattish *appendage.*—Imperfectly known from a single incomplete specimen. Leaves 2½″–2″ long, 10‴ broad: petiole 5‴–6‴, bifid peduncle 1″ long; corolla reflexed: segments 4‴–5‴ long; pollinaria horizontal, clavate, pellucid nearly to the middle, subsessile, inserted into the contracted minute base of a deltoid gland; stigma flat.—HAB. Jamaica!, *Higson.*

13. MACROSCEPIS, *Kth.*

"*Calyx* 5-partite. *Corolla* rotate, 5-partite, contorted: crown 5-leaved. *Anthers* of *Gonolobus:* pollinaria clavate-oblong, horizontal, subsessile, laterally inserted into the gland. *Stigma* depressed.—Hispid climbers; peduncles *short, few-flowered;* corolla *scarcely exceeding the calyx.*"

26. **M. obovata,** *Kth.* "Leaves obovate, pointleted, minutely cordate at the base with a narrow sinus; calyx-segments ovate-lanceolate, acuminate."—*Kth. N. Gen. t.* 233.—

Cynanchum hirsutum, *V. sec. Decs.*—Habit of *Fischeria multiflora*, but peduncles scarcely exceeding the petiole, 2–3-flowered; corolla 1″ diam.—HAB. Trinidad (*V.*); [Mexico, Yucatan].

14. MARSDENIA, *R. Br.*

Calyx 5-leaved or sub-5-partite. *Corolla* 5-lobed, dextrorsely contorted: crown 5-leaved, inserted below the anthers: leaflets devoid of an inner appendage, often adnate below. *Pollinaria* oblong or obovoid, erect: tail horizontal, inserted into the base of the gland. *Stigma* entire, depressed or conical. *Follicles* smooth: seeds comose.—Trailing shrubs *or* climbers; *flowers* cymose.

27. **M. clausa,** *R. Br.* Shrubby, twining above; branches with 2 puberulous lines; leaves lanceolate-oblong, lanceolate or spathulate, mucronulate, tapering or bluntish at the base, glabrous; cymes peduncled: peduncle nearly as long as the petiole; sepals orbicular, ciliate; *corolla* shortly infundibular: *lobes* oval, twice as long as the tube, *bearded above the throat;* crown-leaflets roundish, fleshy; *stigma flat.*—M. affinis, *Rich.!*—Leaves 2″–1½″, corolla 2‴ long.—HAB. Jamaica!, *Macf.*, *Wullschl.*, Manchester, Lititz savannah, trailing on walls; [Cuba!].

28. **M. maculata,** *Hook.!* Shrubby, twining, glabrous; leaves ovate or broadly ovate-oblong, minutely cordate at the base; cymes umbelliform, subsessile; sepals roundish, ciliate; *corolla* rotate-infundibular: *lobes* oval-oblong, blunt, ciliate, *internally glabrous*, thrice as long as the tube; crown-leaflets lanceolate; *stigma convex-conical.*—Leaves 8″–4″, corolla 3‴ long.—HAB. Trinidad!, *Pd.*, in the mountains of S. Anns; [Panama!, New Granada!, Venezuela!].

CXI. GENTIANEÆ.

Stamens inserted into the sympetalous, dextrorsely contorted (rarely induplicative) corolla. *Ovary* superior, paracarpous: carpophylls 2, mostly many-ovulate. *Embryo* cylindrical, in fleshy albumen.—Leaves *mostly opposite and entire, exstipulate, glabrous, often palmatinerved and sheathing at the base;* fruit *mostly a septicide capsule.*

A bitter principle is universal in this Order: hence several in the West Indies are used as tonics, *e.g. Eustoma, Schultesia, Coutoubea.*

1. EUSTOMA, *Don.*

Calyx 5(–6)-partite. *Corolla* infundibular-rotate, marcescent. *Anthers* incumbent, at length recurved. *Style* tardily deciduous: stigma 2-lamellate. *Capsule* 1- to half-2-celled: seeds marginal on the valves.—Glaucescent, erect herbs; *cymes terminal, few-flowered;* corolla *blue or white-variegated.*

1. **E. exaltatum,** *Gr.* Annual; leaves elliptical-oblong, minutely cordate at the stem-clasping base; corolla-segments elliptical-oblong, apiculate, twice as long as the campanulate tube; capsule 1-celled.—*Plum. Ed. Burm. t.* 81. *f.* 1; *Jacq. Ic. Rar. t.* 33; *Desc. Fl.* 1. *t.* 15.—Gentiana, *L.* Lisianthus, *Lam.* L. glaucifolius, *Lam.*—1′–2′ high; corolla 1″ long.—HAB. Jamaica!, all coll., on dry banks along the coast; [Cuba!, Haiti!; Arkansas!; Mexico! to Venezuela!].

2*. ERYTHRÆA, *Ren.*

Calyx 5–4-partite. *Corolla* infundibular or salver-shaped, marcescent. *Anthers* erect, spirally twisted, exserted. *Style* deciduous: stigma 2-lamellate or infundibular. *Capsule* of *Eustoma.*—Annual (rarely perennial) herbs; cymes *terminal, dichotomous;* corolla *rosy (white) or yellow.*

2*. **E. ramosissima,** *Pers.* Stem low, branched usually from the base; leaves ovate-oblong, superior oblong-lanceolate; cyme compound: *flowers pedicellate, ebracteate; corolla-tube* during anthesis a *little exceeding the calyx:* lobes oblong-lanceolate, bluntish; stigma 2-lamellate; *capsule-valves slightly introflexed.*—HAB. Naturalized in Jamaica!, *March*, *M'Nab;* [Europe! to Siberia!, Arabia! and Canary Islands; naturalized in the eastern United States].

3. SLEVOGTIA, *Reichenb.*

Calyx 5-fid. *Corolla* infundibular, marcescent. *Stamens* alternating with teeth, included: anthers erect, straight, corniculate at the top. *Style* deciduous: stigma capitate. *Capsule* 1-celled: seeds marginal on the valves.—Perennial, leafy herbs; flowers *glomerate in the axils.*

3. **S. occidentalis,** *Gr.* Stem roughish; *leaves* elliptical-lanceolate, acuminate at both ends, *sharply pointed;* calyx-lobes subulate, squarrose, nearly as long as the capsule.—*Plum. Ed. Burm. t.* 81. *f.* 2.—Gentiana verticillata, *L.* (Hippion, *Spreng.*).—1′–3′ high; leaves 3-nerved, 2″–4″ long; corolla "blue," 3‴ long.—HAB. S. Vincent!, *Guild.*, Grenada!, *Lane;* Trinidad!, *Sch.*, *Pd.*, *Cr.*, S. Anns, Maraval; [Cuba to French islands].

4. COUTOUBEA, *Aubl.*

Calyx 4-fid, 3–2-bracteolate. *Corolla* shortly salver-shaped, marcescent. *Anthers* sagittate, straight, exserted. *Style* deciduous: stigma 2-lamellate. *Capsule* half-4-celled, 2-valved: seeds marginal on the introflexed valves.—Annual, virgate herbs; flowers *spicate or racemose, white or reddish.*

4. **C. densiflora,** *Mart.* *Leaves* oblong-lanceolate, *roundish or cordate at the* sheathing *base; flowers spicate,* 3-bracteolate, densely approximate or the inferior somewhat distant.—*Cav. Ic. t.* 328: a form with ternately whorled leaves (*C. ternifolia*, Cav.).—C. spicata, *Kth.*, *Benth.* (*non Aubl.*).—1′–3′ high; corolla-tube 3‴–2‴ long, as long as the lobes.—HAB. Trinidad!, *Lockh.*, *Sch.*, on dry, gravelly banks; [Guadeloupe!; Honduras! to Brazil!].

5. SCHULTESIA, *Mart.*

Calyx 4–5-fid: tube 4–5-winged or -keeled. *Corolla* infundibular, marcescent: lobes broadly rounded or subtruncate. *Anthers* exceeded by the corolla-limb, straight, incumbent. *Style* deciduous: stigma 2-lamellate or 2-globose. *Capsule* 1-celled: seeds marginal on the slightly introflexed valves.—Annual herbs; stem *erect, tetragonal;* flowers *in terminal cymes or single, rosy, purple or yellow.*

5. **S. stenophylla,** *Mart.* Leaves oblong, lanceolate or linear; cymes dichotomous: lateral flowers 2-bracteolate, central ebracteolate, shortly pedicellate; *calyx 4-winged:* wings transversely veined, semiovate or semilanceolate; *corolla* rosy-violet, *4-fid lobes subtruncate-obovate;* filaments 2-dentate below.—*Aubl. t.* 26. *f.* 1; *Desc. Fl.* 1. *t.* 20.—Exacum guianense, *Aubl.* E. cubense, *Pœpp.!*—Variable; corolla 8‴ long.—HAB. Jamaica!, *Macf.;* Trinidad!, *Lockh.*, *Cr.*, in moist savannahs; [Cuba! and Mexico! to Southern Brazil!].

6. **S. heterophylla,** *Miq.* Leaves lanceolate-linear; cyme few–1-flowered: flowers 2-bracteolate with elongated bractlets, central subsessile; *calyx narrowly 4-winged:* wings transversely veined, semilanceolate-linear; *corolla* large, rosy, *4-fid: lobes obovate, mucronulate;* filaments 2-dentate or subulate at the base.—Spithameous; stem simple below the summit, corolla 1½″ to almost 2″ long.—HAB. Jamaica!, *Macf.;* [Haiti!; Panama! to Brazil!, in moist savannahs].

6. LISIANTHUS, *Aubl.*

Calyx 5-partite or 5-fid: divisions imbricative, not keeled. *Corolla* infundibular or salver-shaped. *Stamens* inserted into the inferior part of the corolla-tube, often unequal: anthers at length recurved, with the connective usually enlarged. *Style* persistent: stigma 2-lamellate. *Capsule* 2-celled by the introflexed valves.—Herbs *or* shrubs; flowers *usually in terminal cymes.*

Sect. 1. HELIA, *Mart.—Corolla marcescent: tube constricted, limb spreading, often oblique.*—Herbs; leaves archveined.

7. **L. chelonoides,** *L.* Annual; *stem* nearly *cylindrical*, simple; *leaves* ovate or elliptical, *superior sessile;* cyme-branches racemiform, with unilateral flowers; calyx 5-fid: lobes blunt; *corolla greenish,* enlarged at the throat: lobes oblong, blunt, slightly exceed-

ing or equalling the stamens; stigma-segments obovate.—3′–4′ high; corolla 1″ long.—Hab. Trinidad!, *Lockh.*, *Lane*, *Cr.*, Maraccas, Pitch Lake; [Guiana! to Brazil! and Peru!].

8. **L. alatus,** *Aubl.* Annual; *stem 4-winged below; leaves* elliptical or elliptical-oblong, *superior sessile;* cyme-branches racemiform, with unilateral flowers; calyx 5-fid: lobes blunt; *corolla greenish-yellow,* enlarged at the throat, narrow below it: lobes roundish, equalling the stamens; stigma-segments obovate.—*Aubl. t.* 80.—L. Œrstedii, *Gr.:* I believe to recognize Aublet's plant in my species, from which *L. trifidus,* Kth. (*L. acutangulus,* Bot. Mag., *L. fistulosus,* Benth.) is distinguished by its broad corolla-tube and a perennial root.—Stem slender, 1′–3′ high; corolla 1″ long.—Hab. Trinidad!, *Cr.,* in savannahs, S. Joseph; [Nicaragua!, Bogota!, Guiana].

Sect. 2. Chelonanthus, *Gr.* (*inclus.* Macrocarpæa).—*Corolla deciduous: tube gradually enlarged, and passing into the limb.*—Herbs or shrubs; leaves archveined.

9. **L. uliginosus,** *Gr. Annual; stem tetragonal below;* leaves elliptical or elliptical-oblong, *superior sessile,* often ovate-lanceolate; cyme-branches lax, racemiform: flowers cernuous; calyx 5-fid: lobes rounded; *corolla blue* (or white): tube campanulate above the calyx, 4 times as long as the ovate-roundish lobes; *stamens not exceeding the limb;* stigma-divisions oblong-linear or linear; capsule ovoid, thrice as long as the calyx.—L. gracilis, *Gr.:* a small-leaved form with linear stigma-divisions. L. amœnus, *Miq.!*—Stem 2′–4′ high; corolla about 1″ long, variable in size.—Hab. S. Vincent!, *Guild.;* [Guiana!, Brazil!].

10. **L. thamnoides,** *Gr.* (*n. sp.*). *Suffruticose,* branched; branches obtusely tetragonal below, subcylindrical above; *leaves* elliptical, pointed, *all petioled,* inferior very large; cyme-branches corymbiform: flowers during anthesis erect: calyx 5-fid: lobes rounded; *corolla greenish-yellow:* tube enlarged above the calyx, 4 times as long as the ovate, blunt lobes; *stamens exserted;* stigma-divisions oval; capsule oblong-lanceolate, twice as long as the calyx.—Habit and corolla of *L. glaber,* L., but branches herbaceous, and flowers smaller; inferior leaves above 1′, superior 2″–3″, calyx 4‴, corolla 1″, capsule 8‴–10‴ long.—Hab. Jamaica!, *Macf.;* [Cuba!].

11. **L. frigidus,** *Sw. Shrubby; branches tetragonal;* leaves elliptical, pointed, shortly petioled or superior subsessile; cyme few-flowered, umbelliform; calyx 5-fid: lobes rounded; *corolla yellow, large:* tube broadly campanulate above the calyx, much larger than the roundish-reniform lobes; *stamens included;* stigma-divisions oval; capsule "ovoid-oblong."—*Hook. Ic. t.* 195.—Inferior leaves 3″ long, superior decrescent; calyx 4‴, corolla 2″ long.—Hab. Dominica!, *Imr.,* in the highest region of the mountains; S. Vincent!, *Guild.;* [Guadeloupe!].

7. LEIANTHUS, *Gr.*

Calyx 5-fid or 5-partite, often keeled: divisions acuminate, slightly imbricative, at length valvar. *Corolla* infundibular: tube clavate-obconical above the calyx. *Stamens* inserted into the inferior part of the corolla: anthers incumbent, straight. *Style* persistent: stigma capitate. *Capsule* ½–2-celled: seeds marginal on the introflexed valves.—Herbs *or* shrubs; flowers *in terminal or axillary cymes.*

12. **L. longifolius,** *Gr.* Annual, *suffrutescent;* stem subcylindrical, often scabrous above; leaves petioled, lanceolate, oblong-lanceolate, or superior ovate; cymes 3–5-flowered, often in a spreading panicle; *calyx 5-fid, 5-winged* (*rarely 5-keeled*); corolla yellowish: tube clavate-obconical, twice or thrice as long as the oblong-lanceolate pointed lobes; *stamens not exserted.*—*Sl. t.* 101. *f.* 1.—Lisianthus, *L.*—1½′–4′ high; corolla 1½″(–1″) long.

α. Calyx-wings lanceolate-linear.—*Br. Jam. t.* 9. *f.* 1.

β. gracilis. Calyx 5-keeled with narrow, linear keels; leaves lanceolate.

γ. cordifolius. Calyx obtusely 5-keeled; leaves small, superior cordate-ovate, shortly petioled.—*Br. Jam. t.* 9. *f.* 2.—Lisianthus cordifolius, *L.* (Leianthus, *Gr.*).—Hab. Jamaica!, all coll., in woods, along rivers (*α*, *β*, *γ*); [Cuba!].

13. **L. latifolius,** *Gr. Shrubby;* branches obtusely tetragonal; leaves elliptical-ob-

long, pointed, tapering into the petiole: sheath short, appressed; cymes 3–5(–1)-flowered, peduncled, axillary, equalling the leaf; *calyx 5-partite, narrowly 5-keeled;* corolla yellow: tube clavate-obconical, twice or thrice as long as the oblong-lanceolate pointed lobes; *stamens included,* exceeded by the style.—Lisianthus, *Sw.*—6′ high; leaves 5″–3″ long, larger than in the preceding; corolla 2″(–1½″) long.—HAB. Jamaica!, *Macf.*, *M'Nab, March,* in the high mountains of Port Royal.

14. **L. exsertus,** *Gr. Shrubby;* branches subcylindrical or obtusely tetragonal; leaves elliptical-oblong or elliptical, pointleted, petioled: sheath truncate-spreading; *cymes many-flowered, corymbiform,* terminal and axillary: *calyx* deeply 5-fid, *destitute of keels or wings; corolla* pale, narrowly cylindrical to the middle, abruptly campanulate above it, *twice or thrice exceeded by the long-exserted stamens:* lobes ovate or ovate-oblong, cuspidate or bluntish, much shorter than the tube.—Lisianthus, *Sw.* L. callosus, *Berter.*—6′–12′ high; corolla 1″(–1½″) long.—HAB. Jamaica!, *Pd., Wils., March,* in the high mountains of S. Andrews.

15. **L. umbellatus,** *Gr. Shrubby;* branches cylindrical or slightly tetragonal; leaves lanceolate-oblong, pointed, long-tapering into the petiole: sheath truncate-spreading; *cymes contracted, many-flowered,* supported by ovate involucral leaves, *long-peduncled:* peduncles axillary, equalling the leaf; *calyx* 5-fid, *destitute of keels or wings;* corolla yellow, clavate: lobes roundish or ovate, much shorter than the tube; *stamens exserted,* about one-third or one-fourth longer than the corolla.—*Hook. Ic. t.* 687, 688.—6′–20′ high; leaves 8″–10″, corolla about 1″ long.—HAB. Jamaica!, *Pd., Al., Wils., March,* in high mountains, Portland, Guy's Hill S. Anns, Dolphin Westmoreland.

8. VOYRIA, *Aubl.*

Calyx 5(–4)-fid, rarely none. *Corolla* salver-shaped, rarely infundibular-clavate: tube at length cleft at the base. *Stamens* included: anthers erect, straight, sometimes connate, either sessile below the corolla-throat or the filaments inserted into the upper part of its tube. *Style* persistent: stigma capitate. *Capsule* ½–2-celled: seeds marginal on the introflexed valves, usually tailed at both ends.—Herbs *devoid of chlorophyll, growing on putrid wood or leaves;* leaves *usually reduced to scales;* flowers *terminal, solitary or in corymbose cymes.*

Sect. 1. LEIPHAIMOS, *Schlecht., Cham.—Anthers subsessile, roundish. Capsule septicide at the middle.*—Leafless herbs.

16. **V. uniflora,** *Lam. Stem* simple, 1-flowered; scales alternate, clasping; *calyx* 5-fid, *one-tenth to one-eighth as long as the corolla:* lobes ovate; *corolla yellow,* salver-shaped: tube filiform, dilated at the base and at the throat, 6–4 times as long as the ovate, pointed lobes.—*Jacq. Amer. Pict. t.* 89.—Gentiana, *Jacq.*—6″–8″ high; corolla-tube 1″ long.—HAB. Jamaica!, *Pd.*, S. Mary's at Petersfield; S. Vincent!, *Guild.;* Trinidad!, *Pd., Cr.*, Arima, Aripo; [Cuba, French islands!; New Granada!, Guiana! to South Brazil!].

17. **V. tenella,** *Guild.! Stem* simple, *1-flowered;* superior scales alternate; *calyx* 5-fid, *one-fourth as long as the corolla:* lobes ovate-lanceolate; *corolla rosy,* infundibular: tube campanulate, 3–4 times as long as the lanceolate lobes.—*Bot. Misc.* 1. *t.* 25 *B.*—1″–4″ high; corolla 4‴–6‴ long.—HAB. Jamaica!, *M'Nab;* S. Vincent!, *Guild.*

Sect. 2. LEIANTHOSTEMON, *Gr.—Anthers 2-awned at the base: filaments distinct. Capsule septicide at the middle.*—Leafless herbs; flowers cymose.

18. **V. mexicana,** *Gr.* Stem simple below the cyme; scales opposite; cyme usually few-flowered: lateral flowers shortly pedicellate, central sessile; calyx 5-fid: lobes lanceolate, pointed; *corolla small,* infundibular: *lobes minutely deltoid,* pointed, one-fourth to one-sixth as long as the tube.—Leiphaimos parasitica, *Schlecht., Cham.*—4″–6″ high, slender; corolla 3‴–4‴ long; seeds tailed, hair-like.—HAB. Jamaica!, *Pd.*, in moist woods near the summit of Dolphin's Peak, Westmoreland, at 3800′ alt.; [Mexico!].

19. **V. trinitensis,** *Gr.* (*n. sp.*). Stem terminated by a contracted cyme; scales opposite, spreading; flowers pedicellate; calyx 5-fid: lobes subulate-setaceous; *corolla* salver-shaped: *lobes oblong-linear, bluntish,* one-fourth to one-third as long as the tube.—Dis-

tinguished from the allied *V. corymbosa*, Splitg., by a longer corolla-tube, and broader lobes. Stem 3″–5″ long, flexuose, usually branched at the base; scales oval-oblong, blunt, 2‴ long, the inferior about half as long as the internode, the superior gradually more distant, the uppermost nearly as long as the ebracteolate pedicels; calyx 2‴, subcylindrical corolla-tube 6‴, its lobes 1½‴–2‴ long; filaments short, as long as the anther: anther-cells connected at the summit, obversely subulate-diverging, often slightly synantherous; ovary half as long as the style: stigma peltate, crenate at the depressed margin; capsule annular, both ends being united: seeds minute, roundish, tailless.—HAB. Trinidad!, *Pd.*, *Cr.*, in the northern mountain-woods, on the summit of Mt. Tamana, La Ventilla.

9. LIMNANTHEMUM, *Gmel.*

Calyx 5-partite. *Corolla* rotate, deciduous: segments induplicative, usually fimbriate. *Anthers* erect, straight. *Style* persistent. *Fruit* dry, indehiscent, 1-celled: seeds sutural. —Floating herbs; leaves *cordate or peltate, long-petioled, alternate;* umbels *sessile, petiolar* (*or axillary*): pedicels *unequal.*

20. **L. Humboldtianum,** *Gr.* Leaves cordate-orbicular; umbels petiolar; calyx-segments oblong-linear, half as long as the corolla, somewhat longer than the capsule; *corolla white, yellow at the base: segments fimbriate at the margin and at the throat,* bearing a stalked gland at the base; style nearly as long at the ovary: stigma subcapitate; capsule many-seeded: *seeds* globose, *smooth.—Descr. Fl.* 1. *t.* 24.—Villarsia, *Kth.* Menyanthes indica, *Aubl.*—HAB. Jamaica!, all coll.; [French islands; Mexico to South Brazil!].

CXII. SCROPHULARINEÆ.

Stamens inserted into the sympetalous, imbricative, usually 2-lipped corolla, didynamous or two, rarely all 5–4 perfect. *Ovary* superior, syncarpous: cells 2, mostly many-ovulate. *Seeds* albuminous.—Stem *usually herbaceous;* leaves *mostly exstipulate, often opposite;* inflorescence *usually racemose.*

This Order affords mucilaginous or acrid drugs: venomous plants occur but rarely. *Capraria* and *Scoparia* are used in the West Indies as stomachics, while the drastic properties of *Gratiola* are represented by *Herpestis Monnieria.*

The line of demarcation between this and the following Order is artificial, and usually it is so drawn as not to admit among *Solaneæ* a 2-lipped corolla or didynamous stamens. I follow here A. Braun and Miers in excluding from *Scrophularineæ* the group of *Salpiglossideæ*, which those botanists refer to *Solaneæ:* thus the character of the latter Order would depend upon the corolla plaited in the bud, and the cymose, often extra-axillary inflorescence, which in *Browallia* is eminently Solanaceous. R. Brown's opinion, developed in the Prodromus, is evidently favourable to these views.

1. POLYPREMUM, *L.*

Calyx 4-partite: segments scarious at the border. *Corolla* regular, included, infundibular, 4-fid. *Stamens* 4, equal, included, inserted into the lower part of the corolla-tube: anthers subglobose. *Style* short: stigma capitate. *Capsule* loculicide.—A dichotomous, annual herb; leaves *linear, entire, sheathing-opposite, glabrous, scabrous at the margin;* flowers *small, white, in a terminal cyme, sessile in each fork of its branches, supported by opposite bracts.*

This genus is anomalous by terminal flowers and by a slight adherence at the base of the ovary; it approaches *Gentianeæ* by having the leaves sheathing by a connecting membrane, the calyx scarious, and the dichotomous cyme and habit of *Cicendia* or *Erythræa:* but from the imbricative æstivation of the corolla, the central placentation, and the loculicide many-seeded capsule, it is, as Mr. Bentham proposed, best placed next to *Logania* and *Buddleja*, or in that portion of the artificial assemblage called *Loganiaceæ*, which gradually passes into *Scrophularineæ* by *Scoparia.* With this latter genus *Polypremum* apparently was considered to be a congener by Jacquin, if we suppose that he described the bracts as an inner pair of quaternary leaves. From the insertion of the leaves it is much more distant from *Rubiaceæ*, to which it was referred by former authors.

1. **P. procumbens,** *L.*, *Lam. Ill. t.* 71.—Scoparia, *Jacq.*—Stems cæspitose, 3″–12″ long, somewhat scabrous at the angles; leaves 4‴–12‴, subulate calyx-segments 1‴ long; corolla hairy at the throat: lobes half as long as the campanulate tube.—Hab. Jamaica!, *M'Nab;* [Virginia to Texas!, Mexico, New Granada].

2. BUDDLEJA, *L.*

Calyx 4-fid. *Corolla* regular, infundibular or salver-shaped, 4-fid. *Stamens* 4, included, inserted into the corolla-throat or below it. *Style* short: stigma ovoid. *Capsule* septicide. —Woody (*or* herbaceous) plants, *mostly woolly by stellate down;* leaves *opposite;* cymes *often contracted, usually in centripetal terminal panicles.*

2. **B. americana,** *L.* Shrubby; branches and flowers tomentose; *leaves ovate or oblong, acuminate, serrulate, tapering into the petiole,* puberulous and glabrescent above, hoary-tomentose beneath; panicle pyramidal: *glomerules* many-flowered, *subsessile in interrupted racemes; corolla* infundibular, *included:* lobes ovate-oblong, as long as the tube; filaments short, inserted into the corolla-throat.—*Sl. t.* 173. *f.* 1.—B. occidentalis, *R. P.*—5′–10′ high; leaves variable; flowers 2‴ long, yellow.—Hab. Jamaica!, *Macf.*, *Pd.*, *March,* on river-banks; [Cuba!, Texas!, and California! to Venezuela! and Peru!]

3. SCOPARIA, *L.*

Calyx 4–5-partite. *Corolla* rotate, regular, 4-fid, hairy at the throat: upper lobe interior in the bud. *Stamens* 4, equal, exserted, inserted into the corolla-throat. *Stigma* blunt. *Capsule* septicide.—Branched herbs; leaves *whorled or opposite, dotted;* pedicels *fascicled-axillary, ebracteolate.*

3. **S. dulcis,** *L.* Annual, suffrutescent, glabrous; leaves ternary (4–2), lanceolate, oblong-lanceolate, or linear-lanceolate, usually serrate above the cuneate or tapering base; pedicels filiform, numerous, geminate, or solitary; calyx 4-partite, exceeded by the subglobose capsule.—*Sl. t.* 108. *f.* 1. *Desc. Fl.* 2. *t.* 106.—Stem erect, 1′–3′ high, very branched, flowering often the whole length; pedicels half as long as the leaves; corolla 2‴ diam., pale-blue or white.

α. Leaves oblong-lanceolate or lanceolate, serrate above the cuneate base.

β. tenuifolia. Leaves linear-lanceolate, all or superior entire, long-tapering towards the base.

Hab. Jamaica!, *Dist.*, *M'Nab*, *March,* a common weed (*α*, *β*); S. Kitts!, Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [Florida!, Cuba! and Mexico! to Brazil! and Peru!; all tropical countries!].

4. CAPRARIA, *L.*

Calyx 5-partite. *Corolla* campanulate, regular, 5-fid: upper lip interior in the bud. *Stamens* 4–5, included, inserted into the corolla-throat: anthers oblong, bifid at the base. *Stigma* blunt. *Capsule* loculicide and septicide, 4-valved.—Suffrutescent herbs; leaves *alternate, dotted;* pedicels *axillary, usually geminate, ebracteolate.*

4. **C. biflora,** *L.* Glabrescent or pilose; *leaves* elliptical-lanceolate or elliptical-oblong, *coarsely serrate* above the base; *stamens* 4; capsule ovate-subglobose, equalling the calyx. —*Jacq. Amer. Pict. t.* 174. *Desc. Fl.* 4. *t.* 300.—2′–4′ high, variable in the down, the shape of the leaves, and the length of the anthers; corolla white, 4‴–5‴ long, usually twice as long as the calyx.

α. Leaves glabrous or glabrescent.

β. pilosa. Branches densely pilose; leaves pubescent.

Hab. Bahamas!, *Hjalmars.;* Turk Islands (*β*); Jamaica!, *Macf.*, *Pd.*, *Dist.*, common everywhere; Antigua!, *Finl.*, *Wullschl.* (*α*), Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.* (*β*); [Key West! and Mexico to Brazil! and Peru!; Galapagos!; trop. Africa!].

5. **C. mexicana,** *Moric.* Glabrous, rarely pubescent; *leaves* lanceolate, acuminate, *serrulate above the middle, or subentire*; *stamens* 5: anthers often half as long as the filaments; capsule ovoid-oblong, equalling the calyx.—3′–4′ high, slender; corolla white, 4‴–5‴, capsule 2‴ long.—Hab. Jamaica!, *Al.*, *M'Nab*, *Wils.*, *March*, S. Anns, S. Davids, *e.g.* Four-miles Wood; [Mexico! to New Granada!].

5*. VERONICA, *L.*

Calyx 4–5(–3)-partite. *Corolla* rotate: limb 4(–5)-partite, slightly unequal: lateral segments exterior in the bud. *Stamens* 2, exserted, alternating with the upper corolla-lobe. *Stigma* blunt. *Capsule* loculicide, rarely septicide.—Leaves *mostly, or inferior only opposite*: inflorescence *racemose or axillary.*

6*. **V. serpyllifolia,** *L.* Perennial, nearly glabrous (or pubescent); branches ascending; leaves ovate-oblong, crenulate, lowest ovate-roundish, floral ones lanceolate, entire; raceme terminal, lax; calyx 4-partite; capsule compressed, roundish, broader than long, bluntly emarginate.—*Fl. Dan. t.* 492.—Branches 1″–4″ long; corolla whitish or pale-blue. —HAB. Naturalized in the mountains of Jamaica (*Berter.*); [a weed of both temperate and cold zones].

6. BUCHNERA, *L.*

Calyx tubular, 5-dentate. *Corolla* salver-shaped: limb 5-partite, nearly equal: upper lobes interior in the bud. *Stamens* didynamous, approximate in pairs, included: anthers 1-celled. *Stigma* blunt. *Capsule* loculicide.—Herbs, *black in drying, slender;* inferior leaves *opposite;* flowers *in a terminal spike.*

7. **B. elongata,** *Sw.* Annual, hispidulous-scabrous, simple or few-branched; *leaves* distant, lanceolate or linear, lowest broader, oblong or obovate-oblong, *few-serrulate or entire: veins delicate;* spike interrupted; calyx half as long as the narrow corolla-tube, thrice as long as the ovate bract: teeth ovate-deltoid; *capsule ovate, shortly exserted.*—*Plum. Ed. Burm. t.* 17.—1′–2′ high; corolla purplish-blue: tube 4‴–5‴, capsule 3‴ long. —HAB. Jamaica!, all coll., in savannahs, Clarendon, S. Anns; [Haiti!; Georgia, Texas! and Mexico! to Brazil!].

8. **B. longifolia,** *Kth.* Annual, hispidulous-scabrous, simple or few-branched; *leaves linear, quite entire,* 3-*nerved: lateral nerves thick,* prominent beneath; spike interrupted; calyx about half as long as the narrow corolla-tube, 4–3 times as long as the ovate bract: teeth ovate-deltoid; *capsule ovoid, included within the calyx.*—B. elongata, *Pl. Spruce.* 3255.—Leaves equal, inferior narrower than in the preceding; corolla blue: tube 4‴, capsule 2‴ long.—HAB. Trinidad!, *Cr.,* in savannahs, S. Joseph, Piarco; [Venezuela!, New Granada].

7. GERARDIA, *L.*

Calyx campanulate, 5-dentate or 5-fid. *Corolla* campanulate-infundibular: lobes 5, unequal, two upper ones interior in the bud. *Stamens* didynamous, included, hairy: anthers approximate in pairs, 2-celled. *Stigma* flattened-blunt. *Capsule* loculicide.—Scabrous-pubescent herbs; inferior leaves *opposite;* flowers *in a terminal raceme or spike.*

9. **G. hispidula,** *Mart.* Annual, very scabrous-hispidulous; leaves linear, quite entire, all opposite; raceme very lax: *pedicels filiform, much longer than the flower,* 2–1-bracteolate about the middle; *calyx about half as long as the infundibular nearly glabrous corolla-tube:* teeth shortly subulate; capsule ovoid-globose, included.—*Mart. Nov. Gen.* 3. *t.* 207.—1′–1½′ high, slender; leaves 1″–2″, corolla 6‴–8‴ long, rosy.—HAB. Jamaica!, *Wullsch.,* Manchester, Lititz-Savannah; [Guiana, Brazil].

8. ALECTRA, *Thunb.*

Calyx campanulate, 5-dentate or 5-fid: lobes valvate. *Corolla* connivent-campanulate or subglobose, reticulated: limb 5-fid, oblique: two upper lobes exterior in the bud. *Stamens* didynamous, included: anthers 2-celled. *Style* incurved: stigma flattened-blunt. *Capsule* loculicide.—Annual, erect, scabrous herbs, *parasitical on roots,* (*like the two preceding genera*); stem-leaves *opposite, toothed;* flowers *in a terminal spiciform raceme.*

10. **A. brasiliensis,** *Benth.* *Hispid;* leaves subsessile, acuminate from the subcordate base, serrate-dentate; raceme leafy; calyx subglobose, broadly 5-dentate; *corolla* yellow, *included or shortly exserted.*—*Vell. Fl. Flum.* 6. *t.* 87.—1′–3′ high, simple or few-branched, variable in the raceme, either continuous or transformed into shortly pedicellate,

axillary flowers. Calyx $4'''$–$5'''$ diam.; corolla scarcely expanding.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, in moist savannahs and canefields; [New Granada! and Guiana! to South Brazil!].

9. BEYRICHIA, *Cham. & Schl.*

Calyx 5-partite: upper segment broader. *Corolla* 2-lipped: tube longer than the lips: upper lip exterior in the bud. *Stamens* 2 (–4): the two anthers connate by the connective, dimidiate, 1-celled. *Stigma* flattened. *Capsule-valves* 2, seceding from the central placenta.—Pubescent herbs; leaves *opposite;* flowers *shortly pedicellate, axillary, or in leafy racemes.*

11. **B. scutellarioides,** *Benth.!* Diffuse; leaves elliptical, serrulate above the cuneate base; *flowers axillary:* four anterior calyx-segments lanceolate, posterior ovate; corolla twice as long as the calyx; posterior stamens abortive; capsule septicide: valves at length 2-fid (or entire).—B. villosa, *Benth.:* a pilose form.—Decumbent, softly pubescent; leaves $4'''$–$12'''$, corolla $2'''$ long, pale-blue.—HAB. Trinidad!, *Lockh.*, *Cr.*, very common; [Venezuela! to Brazil!].

10. STEMODIA, *L.*

Calyx 5-partite. *Corolla* 2-lipped: upper lip exterior in the bud. *Stamens* didynamous: anther-cells 2, distinct, diverging. *Capsule* 2–4-valved.—Branched herbs, *usually glandular;* leaves *opposite or whorled;* flowers *axillary or spicate.*

12. **S. maritima,** *L.* Suffrutescent-decumbent, viscous-pubescent; *leaves* opposite, shortly *oblong-lanceolate, cordate, sessile,* serrulate; flowers subsessile, axillary; calyx exceeding half the corolla: segments lanceolate-linear, subequal; corolla divided to the middle: upper lip subentire; *filaments 2-fid at the top:* branches spreading, as long as or longer than the anther-cells; stigma capitate; capsule 4-valved: valves seceding from the central placenta.—*Sl. t.* 110. *f.* 2. *Br. Jam. t.* 22. *f.* 2: *analyt. Jacq. Amer. Pict. t.* 261. *f.* 48: a leaf.—$1'$–$3'$ high, leafy, aromatic; stem-leaves often appressed, $10'''$–$4'''$ long; corolla $2'''$ long, pale-purple or blue.—HAB. Jamaica!, *Pd.*, *Wils.*, *March*, common in wet places along the southern coast; [Cuba! to Brazil!].

13. **S. durantifolia,** *Sw.* Herbaceous, erect, glandular; *leaves* usually ternary (4–2), *lanceolate-oblong or linear-lanceolate, acuminate, contracted or tapering above the cordate sessile base,* serrate above; flowers pedicellate, axillary or in an interrupted raceme; calyx about half as long as the corolla: segments lanceolate-linear, subequal; corolla-tube longer than the lips: upper lip emarginate; *anther-cells very shortly stipitate:* stigma obliquely dilated; capsule 4-valved: valves seceding from the central placenta.—*Sl. t.* 124. *f.* 2.—Capraria, *L.*—$1'$–$3'$ high, less branched than the preceding; leaves spreading, $2''$–$8'''$ long; corolla $3'''$–$4'''$ long, pale-blue.

α. Glandular and pilose with septate hairs; leaves lanceolate-oblong or lanceolate, contracted above the broader base, often dentate at the dilated base.—S. Berteroana, *Benth.:* a racemose form.

β. angustifolia. Densely glandular, but devoid of eglandular hairs; leaves lanceolate or lanceolate-linear, gradually tapering above the slightly dilated entire base.

HAB. Jamaica!, all coll., common in canefields and moist places (*α*, *β*); Antigua!, *Lane*, *Wullschl.* (*α*); [Cuba! and Mexico! to South Brazil!].

14. **S. parviflora,** *Ait.* Low, annual, diffuse, glandular-pubescent; *leaves* opposite (–4), *ovate, blunt, crenate-serrate above the cuneate long-petioled base;* flowers shortly pedicellate, axillary; calyx about half as long as the corolla: segments linear-acuminate, equal; corolla-tube longer than the lips: upper lip emarginate; *anther-cells subsessile;* stigma obliquely dilated; capsule 4-valved: valves seceding from the central placenta.—*Kth. N. Gen.* 2. *t.* 175.—S. arenaria, *Kth.*—$3''$–$6''$ high; leaves $4'''$–$8'''$ long, the smaller ones as long as the petiole; corolla $2'''$ long, pale-blue.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Lockh.*; [Haiti; Mexico! to South Brazil! and Peru!].

11. CONOBEA, *Aubl.*

Calyx 5-partite, equal. *Corolla* 2-lipped: upper lip exterior in the bud. *Stamens* didy-

namous: anthers approximate in pairs: cells 2, parallel. *Stigma* obliquely 2-lobed. *Capsule* 2–4-valved: valves seceding from the central placenta.—Herbs; leaves *opposite*; pedicels *axillary, filiform.*

15. **C. aquatica,** *Aubl.* Decumbent, glabrescent; *leaves reniform-roundish, cuneate above the* subtruncate, *sessile base,* exceeded by the solitary pedicels, dotted; capsule globose. —*Aubl. t.* 258.—Stem tetragonal; leaves 6‴–3‴ diam., palmatinerved; pedicels 8″–4‴, corolla 3‴ long, pale-blue.—Hab. Trinidad!, *Cr.*, in wet places, Waterloo Estate; [Venezuela, Guiana].

12. HERPESTIS, *G.*

Calyx 5-partite, unequal: upper segment broader than the lateral ones. *Corolla* 2-lipped: upper lip exterior in the bud. *Stamens* didynamous: anthers 2-celled. *Capsule* of Conobea. —Herbs; leaves *opposite;* flowers *axillary.*

16. **H. chamædryoides,** *Kth.* Annual, diffuse, decumbent, glabrous; *leaves ovate, bluntish, serrulate,* uninerved, shortly petioled, *often exceeded by the filiform, ebracteolate pedicel;* broader calyx-segments ovate or ovate-oblong, lateral lanceolate; *corolla shortly exserted, yellow:* upper lip emarginate; *anther-cells roundish, diverging;* stigma blunt; capsule 2-valved.—H. chrysantha, *Cham.* H. cubensis, *Pœpp.* Lindernia dianthera, *Sw.*—Black in drying; stems and branches 3″–8″, variable leaves 4‴–10‴, pedicels at length 3‴–8‴, flowers 4‴ long —Hab. Jamaica!, *Pd.*, in canefields, Manchester; Antigua!, *Nichols., Wullschl.;* Trinidad!, *Lockh., Cr.*, common in moist places; [Cuba!, Haiti!; Texas! and Mexico! to Brazil! and Peru!].

17. **H. sessiliflora,** *Benth.* Annual, erect, glabrous; *leaves lanceolate-linear,* tapering at both ends, *serrulate* above, uninerved, subsessile; *flowers subsessile;* broader calyx-segments ovate or ovate-long, lateral lanceolate; *corolla very shortly exserted:* upper lip emarginate; *anthers roundish: cells parallel;* stigma blunt; capsule 4-valved.—8″–12″ high; leaves 12‴–8‴, corolla 2‴ long.—Hab. Jamaica!, *Wullschl.*, Manchester at Lacovia; [Mexico, Panama! to equat. Brazil].

18. **H. repens,** *Cham. & Schl.* Stem low, radicant, puberulous; *leaves oval,* entire, *palmatinerved sessile,* glabrescent, *as long as or exceeding the bibracteolate pedicel;* broader calyx-segments ovate, lateral lanceolate; *corolla shortly exserted, whitish:* upper lip emarginate; *anther-cells oblong, parallel;* stigma 2-fid; capsule 4-valved.—*Sw. Ic. t.* 3. —Gratiola, *Sw.*—Stem flaccid, 2″–4″ long: leaves 2‴–4‴ (–8‴), flowers 1½‴ long.—Hab. Jamaica (*Sw.*), very rare in moist places; [Haiti!, Portorico!, Guadeloupe!; Mexico, Venezuela!, Brazil].

19. **H. Monnieria,** *Kth.* Stem diffuse, creeping, radicant below, glabrous; leaves spathulate or obovate, subsessile, subentire: nerves not conspicuous; *pedicels* usually exserted, *bibracteolate* at the summit; broader calyx-segments ovate, lateral lanceolate; *corolla twice as long as the calyx, pale-blue: upper lip deeply 2-fid; anther-cells oblong, parallel;* stigma capitate; capsule 4-valved.—*Sl. t.* 129. *f.* 1. *Br. Jam. t.* 28. *f.* 3: *analyt.*—Gratiola, *L.* Monnieria Brownei, *Pers.*—Leaves somewhat succulent, 3‴–6‴ long; corolla 6‴ long: lobes subequal.—Hab. Bahamas!, *Swains.;* Jamaica!, *Dist., Pd., March,* common in moist places; Trinidad!, *Lockh., Cr.;* [United States! to Buenos Ayres!; trop. Africa, Mascate! to East Indies!, trop. Australia!, Pacific islands].

13. VANDELLIA, *L.*

Calyx 5-partite–5-dentate, equal. *Corolla* 2-lipped: upper lip exterior in the bud. *Stamens* didynamous: anterior filaments with a basilar tooth: posterior anthers cohering, with the cells diverging. *Capsule* 2-valved: valves seceding from the central placenta.—Herbs; leaves *opposite, serrate;* pedicels *axillary.*

20. **V. diffusa,** *L.* Annual, diffuse, pubescent; leaves ovate, blunt, subsessile or shortly petioled, serrate above the base; *calyx deeply* 5-*fid,* longer than the short pedicel, *half as long as the oblong-linear, pointed capsule:* lobes lanceolate-acuminate; appendage of the anterior filaments obovate.—Leaves 6‴, corolla 2‴, capsule 5‴ long; stigma 2-lamellate.—Hab. Jamaica!, *Macf.;* Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 170, *Lockh., Cr.;* [New Granada! to Brazil!; trop. Africa!, Madagascar!].

14*. LINARIA, *T.*

Calyx 5-partite. *Corolla* personate: tube spurred at the base: upper lip exterior in the bud. *Stamens* didynamous: anther-cells oblong. *Capsule* opening below the summit by minute valves or pores.—Herbs; upper *or* all leaves *alternate;* flowers *racemose or axillary.*

21*. **L. vulgaris,** *Mill.* Perennial, erect, glabrous, glandular above; leaves lanceolate-linear, all alternate; flowers densely racemose, large, yellow: throat of the corolla closed: spur subulate; seeds broadly margined, tubercled at the centre.—Corolla (the spur included) about 1″ long.—HAB. Naturalized in Jamaica!, *Wullschl.*, Manchester; [a weed, introduced from Europe].

15. ANGELONIA, *Bonpl.*

Calyx 5-fid or 5-partite. *Corolla* rotate, 2-lipped, saccate at the appendiculate throat. *Stamens* didynamous: anthers 2-celled: cells diverging. *Capsule* loculicide (rarely indehiscent).—Herbs; lower *or* all leaves *opposite;* pedicels *axillary or racemose.*

22. **A. salicarifolia,** *Bonpl.* Annual, erect, *viscous-pubescent; leaves* oblong-linear, pointed, *rounded at the sessile base,* serrulate; flowers in a lax raceme; lower corolla-lobes oblong, blunt: appendage short; capsule globose, loculicide to the base.—*Humb. Bonpl. Pl. Equin.* 2. *t.* 108.—Leaves 1″–3″ long; corolla violet, 6‴–8‴ diam.—HAB. Trinidad!, *Sieb. Tr.* 140, *Sch.;* [Cuba, Portorico!; Venezuela!, New Granada!, Guiana].

23. **A. angustifolia,** *Benth.* Annual, erect, *glabrous;* leaves lanceolate or linear-lanceolate, pointed, *tapering into the subsessile base,* remotely serrulate above or subentire; flowers in a lax raceme; lower corolla-lobes obovate: appendage short; capsule globose, loculicide to the base.—A. salicarifolia, *v.* jamaicensis, *Benth.!*—Habit and most characters of the preceding; corolla variable in size, often as large as in the preceding.—HAB. Jamaica!, *Pd., Wils., Al., M'Nab, Wullschl.;* [Cuba!, Mexico!].

CXIII. SOLANEÆ.

Character of *Scrophularineæ*, but corolla plaited or induplicative in the bud, usually regular, and inflorescence cymose, extra-axillary. Leaves *alternate (or geminate), exstipulate.*

This Order is generally narcotic and poisonous, though yielding several eatable substances, viz. the potato (*Solanum tuberosum*), the tomate (*Lycopersicum* and *Solanum Melongena*), the berries of *Physalis peruviana*, the herbage of *Solanum nodiflorum*, eaten as spinach. The narcotic property, so important in the tobacco-plant (*Nicotiana*), and in similar effective drugs, depends upon several alkaloids, *e.g.* atropin (*Datura*), nicotin (*Nicotiana*), solanin (*Solanum*). The berries of the Spanish pepper (*Capsicum*) are highly acrid.

1. BROWALLIA, *L.*

Calyx 5-dentate or 5-fid. *Corolla* salver-shaped, plaited in the bud: lobes 5, emarginate, imbricative, superior exterior. *Stamens* didynamous, posterior shorter, with dimidiate anthers. *Stigma* 2-lamellate. *Capsule* septicide: valves 2-fid. *Embryo* straight.—Annual herbs; leaves *entire;* flowers *blue:* pedicels *extra-axillary, often in racemiform cymes.*

1. **B. demissa,** *L.* Hairy or glabrate; leaves ovate, petioled; calyx unequally 5-dentate, half as long as the slender corolla-tube: teeth subacute, much shorter than their tube; ovary hairy at the summit.—*Bot. Mag. t.* 1136.

α. Calyx-tube glabrous.—B. nervosa, *Mrs.*

β. elongata, Kth. Calyx-tube pilose.

HAB. Jamaica!, *M'Nab, Wullschl., March* (*α*), *Al.* (*β*); Dominica!, *Imr.* (*α*); Trinidad!, *Sieb. Tr.* 205 (*α*), *Cr.* (*β*); [Haiti; Panama! to Guiana! and equat. Brazil].

2. BRUNFELSIA, *Sw.*

Calyx 5-dentate or 5-fid. *Corolla* salver-shaped, plaited in the bud: lobes 5, slightly unequal, rounded, imbricative, superior exterior. *Stamens* didynamous (–5, unequal):

anthers reniform, with confluent cells. *Stigma* 2-lipped. *Pericarp* baccate or capsular and 2-valved. *Embryo* incurved.—Shrubs *or* low trees; leaves *entire; pedicels in the West Indian species usually solitary, terminal or lateral.*

Sect. 1. Franciscea, *Pohl.—Pericarp dry, capsular.*

2. **B. Hopeana,** *Benth.* Glabrescent; leaves elliptical, shortly petioled; *calyx tubular,* slightly dilated, 5-dentate, longer than the subsolitary pedicel: teeth oblong-lanceolate, bluntish; *corolla blue: tube little longer than the calyx.—Bot. Mag. t.* 2829.—B. Hopeana, *var.* pubescens, *Benth.! (exclus. syn.* Franciscеæ unifloræ, *Pohl*).—A shrub; leaves 1½″–1″, calyx 7‴–8‴ long.—Hab. Trinidad!, *Lockh.*, uncommon in the hills of Monos Bocas; [Brazil!].

Sect. 2. Eubrunfelsia.—*Pericarp fleshy, not or tardily dehiscent.*

3. **B. americana,** *Sw. Leaves elliptical,* elliptical-oblong, or obovate, *petioled, veiny; calyx* campanulate, 5-*dentate,* as long as the solitary pedicel: teeth rounded; *corolla pale-yellow: tube* 8–10 *times as long as the calyx, thrice as long as the limb,* often slightly incurved above: lobes rounded, entire; berry globose.—*Sw. Obs. t.* 4: the flower. *Bot. Mag. t.* 393.—A low tree, 10′–15′ high; leaves 1½″–3″, petiole 2‴ long; flowers odorous; calyx 3‴, corolla-tube 2″–2½″ long: corolla-limb 10‴–12‴, berry 8‴ diam., the latter yellow.

α. Glabrous; leaves membranaceous, or at length somewhat leathery: petiole narrow.

β. pubescens. Branchlets rusty-pubescent; leaves chartaceous, at length leathery, pubescent or glabrate beneath: petiole thickish; calyx pubescent or ciliate.—*Desc. Fl.* 2. *t.* 76.

Hab. Jamaica!, *Al., Pd.*, in woods (*α*); S. Kitts! (*β*), Antigua!, *Wullschl.* (*α*); [Cuba! to French islands!, *β* on the arid shore].

4. **B. jamaicensis,** *Gr. Leaves lanceolate-oblong,* bluntly pointleted, *petioled, veiny; calyx* campanulate, 5-*dentate,* puberulous or ciliate, as long as the approximate or solitary pedicels: teeth rounded; *corolla yellow: tube* 9–12 *times as long as the calyx, twice as long as the limb,* straightish: lobes rounded, entire.—*Bot. Mag. t.* 4287.—B. nitida, *var.* jamaicensis, *Benth.!*—Didynamous stamens as in the preceding, but the flowers large as in the following species. Branchlets puberulous, glabrate; leaves membranaceous, at length leathery, 6″–3″ long, 20‴–12‴ broad: petiole channelled, 2‴–3‴ long; calyx 3‴–4‴, corolla-tube 3″–3½″ long; corolla-limb 2″–2½″ diam.—Hab. Jamaica!, *Macf., Pd., March, Wullschl.*, Portland Gap, Manchester.

5. **B. fallax,** *Duchass.* Glabrous; *leaves elliptical* or elliptical-oblong, bluntish, *petioled, veiny; calyx* campanulate, 5-*dentate,* ⅓–¼ as long as the solitary pedicel: teeth rounded; *corolla yellow: tube* 10–12 *times as long as the calyx, thrice as long as the limb,* straightish: lobes rounded, entire; *stamens* 5.—A tree, 20′ high, or higher; leaves chartaceous, 2″–3″, petiole 2‴, calyx 3‴, corolla-tube 3″–2½″ long: diameter of the corolla-limb 2″.—Hab. Dominica!, *Imr., Finl.;* Trinidad!, *Sieb. Tr.* 26; [Guadeloupe!].

6. **B. nitida,** *Benth.* Glabrous; *leaves elliptical or obovate,* tapering into a short petiole, or *subsessile,* veiny; *calyx* campanulate, *deeply* 5-*fid beyond the middle,* as long as or shorter than the approximate or solitary pedicels: *lobes oblong,* bluntish or subacute; *corolla white: tube* 10–12 *times as long as the calyx,* 5 *times as long as the limb,* straightish: lobes rounded, entire.—B. parvifolia, *Rich.*—Leaves 1½″–3″, calyx 4‴–5‴, corolla-tube 4″ long: diameter of the corolla-limb 1½″.—Hab. Naturalized in Jamaica!, *March;* [Cuba!].

7. **B. undulata,** *Sw.* Glabrous; *leaves lanceolate-oblong,* subacute, contracted into the short petiole or *subsessile: veins inconspicuous beneath; calyx* campanulate, 5-*dentate-repand,* as long as or longer than the approximate or solitary pedicels: teeth rounded, broader than long; *corolla whitish: tube* 16 *times as long as the calyx,* 6 *times as long as the limb,* slightly incurved: *lobes* rounded, *undulate-crenate;* berry large, subglobose.—*Bot. Reg.* 3. *t.* 228: distinguished from Swartz's description by yellow flowers.—A tree, 20′ high; leaves leathery, 6″–3″ long, 18‴–9‴ broad: petiole scarcely 2‴ long, broad, channelled; calyx 3‴, corolla-tube 4″ long: diameter of the corolla-limb 16‴, of the hard, greyish berry 1″–1½″.—Hab. Jamaica!, *Pd., M'Nab,* on rocks, along the sea-coast, S. Marys, S. Anns.

3. SOLANDRA, *Sw.*

Calyx tubular, unequally divided, at length unilaterally cleft to the base: lobes 3–5 (–2). *Corolla* infundibular, plaited above in the bud: tube cylindrical below: lobes 5(–7), imbricative. *Stamens* 5, incurved, inserted into the inferior part of the corolla-tube: anthers 2-celled, erect. *Stigma* 2-lobed-capitate. *Berry* 4-celled. *Embryo* incurved.—Scandent, woody plants; leaves *entire, petioled;* flowers *terminal, usually solitary, large.*

8. **S. grandiflora,** *Sw.* Leaves elliptical or elliptical-oblong; flowers shortly pedicellate; *calyx 3–4-fid, one-third as long as the corolla, equalling the cylindrical part of its tube;* corolla greenish-white: lobes rounded, undulate-crenulate, one-eighth to one-tenth as long as the tube; stamens included; berry ovoid-globose, pointed.—*Sw. Fl. t.* 9: *analyt. Desc. Fl.* 3. *t.* 174. *Bot. Mag. t.* 1874.—S. nitida, *Zuccagn.* S. macrantha, *Dun.*—A small tree or shrub, with trailing branches: the West Indian form glabrous; leaves 2½″–5″, calyx 3½″–2″, corolla 7″–10″ long: transverse diameter of its lobes 2″–1½″.—Hab. Jamaica!, *Pd., Al., Wullschl.*, scandent and rooting on trees and rocks, Manchester, S. Anns, *e.g.* in the ravine of Ochorios; [Cuba; Mexico, Guatemala!, New Granada!, Venezuela!, Brazil!].

9. **S. longiflora,** *Tuss.* Glabrous; leaves elliptical-oblong, lanceolate-oblong, or obovate-oblong; flowers shortly pedicellate; *calyx* 3–4(5–2)*-fid, one-fourth as long as the corolla, half as long as the cylindrical part of its tube,* which is campanulate above; corolla white, with a purplish tinge: lobes rounded, undulate-dentate, one-twelfth as long as the tube; stamens included; berry globose, mucronate.—*Tuss. Fl.* 2. *t.* 12. *Bot. Mag. t.* 4345.—S. lævis, *Hook.:* a form with a 2-fid calyx.—Leaves 2½″–4″, calyx 3½″–3″, corolla 12″ long: transverse diameter of its lobes 2½″–2″, of the berry 1½″.—Hab. Jamaica (*Tuss.*); [Cuba!].

10. **S. minor,** *Gr.* (*n. sp.*). Glabrous: leaves elliptical, pointed; flowers shortly pedicellate; *calyx 4–5-fid, exceeding half the corolla, twice as long as the cylindrical part of its tube:* lobes oblong, blunt or mucronate; corolla-lobes rounded, entire, one-sixth as long as the tube, which is nearly as long as the stamens.—Leaves 4″–3″, petiole 15‴–8‴, calyx 3″, corolla 5″ long: transverse diameter of its lobes 8‴–10‴; anthers oblong, blunt, pale, as in the two preceding species.—Hab. Dominica!, *Imr.*

4. MARCKEA, *Rich.*

Calyx 5-partite. *Corolla* infundibular or salver-shaped, plaited in the bud: lobes imbricative. *Stamens* 5, inserted into the inferior part of the corolla-tube: anthers 2-celled. *Stigma* capitate. *Berry* "2-celled."—Scandent, glabrous shrubs; leaves *entire, petioled;* pedicels *single, or in few-flowered corymbiform cymes.*

11. **M. longiflora,** *Mrs.!* Leaves elliptical or elliptical-oblong, pointleted; *calyx-segments broadly ovate-oblong,* cuspidate, *one-third as long as the corolla;* corolla infundibular: tube campanulate-cylindrical, contracted below the middle into the narrowly cylindrical base: lobes roundish, one-sixth as long as the tube.—Leaves 8″–5″, petiole 6‴ long; calyx spreading-erect: segments 10‴ long, 4‴–5‴ broad; corolla 2¼″ long: tube 5‴ diam. above, 1‴ below its stricture.—Hab. Trinidad!, *Pd.*, on trees, Laguna de Oraponche.

5. DATURA, *L.*

Calyx tubular, 5-dentate or -cleft, at length circumscissile at the base. *Corolla* infundibular, plaited in the bud: limb twisted-conduplicative. *Stamens* 5, inserted into the corolla-tube. *Stigma* 2-lamellate. *Capsule* 4-valved, 2-celled: cells partitioned. *Embryo* incurved.—Herbaceous *or* woody plants; leaves *petioled, usually dentate;* flowers *solitary in the bifurcations of the stem.*

12*. **D. suaveolens,** *Humb. Bonpl. Arborescent,* puberulous or glabrescent; leaves ovate or ovate-oblong, pointed, entire; flowers large, white, nodding; calyx ventricose, 5-dentate (or -cleft), shorter than half the corolla; *corolla-limb produced into* 5 *short subulate teeth,* tube cylindrical below, campanulate above; *anthers cohering, linear; capsule unarmed.*—Brugmansia, *G. Don.* D. arborea, *Hort.* (*non L.*). D. Gardneri, *Hook.!*—

6′–10′ high; corolla 12″–10″, anthers 1½″ long.—HAB. Naturalized in Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; [Cuba! to Brazil!].

13. **D. Metel,** *L.* Annual, *softly pubescent;* leaves ovate, few-dentate or entire; calyx loose, 5-dentate, about half as long as the whitish corolla; *corolla-limb* spreading, *shortly* 10-*dentate:* tube subcylindrical; *anthers* distinct, *oblong; capsule echinate-prickly, pendulous.*—*Bot. Mag. t.* 1440.—Corolla 6″, anthers 4‴–5‴ long; capsule-prickles subuliform, 6‴–8‴ long.—HAB. Antigua!, *Wullschl.*, a weed; [Haiti! and Mexico! to Brazil; Spain! and Canary Islands! to trop. Africa!].

14*. **D. fastuosa,** *L. Annual, glabrescent;* leaves ovate, repand, or few-dentate; calyx 5-dentate, one-third as long as the violet-tinged (or white) corolla; *corolla-limb* 5-*dentate,* often duplicate, spreading, gradually passing into the subcylindrical tube: *teeth long-subulate;* anthers distinct, linear-oblong; *capsule muricate, pendulous:* prickles short, tuberculiform.—*Wight, Ic. t.* 1396.—Corolla 6″–7″, anthers 6‴, capsule-prickles about 2‴ long.—HAB. Naturalized in S. Kitts!, Antigua!, *Nichols.*, *Wullschl.*, Barbadoes!, *Finl.*; [East Indies!, trop. Africa!].

15. **D. Tatula,** *L. Annual, glabrescent;* leaves ovate, sinuate-dentate; calyx 5-dentate, half as long as the violet corolla; *corolla-limb* 5-*dentate,* spreading, gradually passing into the cylindrical tube: teeth subulate-filiform; *anthers* distinct, *oblong; capsule echinate-prickly, erect: prickles equal,* subuliform.—*Desc. Fl.* 3. *t.* 173.—D. Stramonium, *β, Kch.*—Stem red; corolla 3″–4″, anthers 2½‴, capsule-prickles 4‴ long.—HAB. Jamaica!, *Wullschl.*, a weed; [tropical and temperate countries of the globe].

16. **D. Stramonium,** *L. Annual, glabrescent;* leaves ovate, sinuate-dentate; calyx 5-dentate, half as long as the white corolla; *corolla-limb* 5-*dentate,* spreading, gradually passing into the cylindrical tube: teeth subulate-filiform: *anthers* distinct, *oblong; capsule echinate-prickly: superior prickles much shorter than the inferior ones.*—Stem green; corolla 2½″–3″, anthers 2‴, superior capsule-prickles 4‴, inferior 2‴ long.—HAB. Jamaica, a weed; Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; [both temperate and tropical zones of the globe].

6. NICOTIANA, *L.*

Calyx tubular, 5-fid or 5-dentate, persistent. *Corolla* infundibular or salver-shaped, plaited in the bud: limb twisted-conduplicative. *Stamens* 5, included, inserted into the inferior part of the corolla-tube. *Stigma* 2-lobed-capitate. *Capsule* 2-celled, septicide: valves 2-fid. *Embryo* slightly incurved.—Herbaceous, rarely woody, usually glandular-viscous plants; leaves *subentire; cymes terminal, corymbiform or racemiform.*

17. **N. pusilla,** *L.* Annual; leaves lanceolate and lanceolate-linear, sessile, the inferior elliptical, tapering at the base; cyme divided-racemiform; calyx 5-fid, one-third as long as the greenish-yellow corolla: lobes equal, lanceolate-linear; *corolla infundibular: tube filiform-clavate, contracted below the short lanceolate-acuminate lobes; capsule at length shortly exserted.*—*Mill. Ic. t.* 185. *f.* 2: diminished in size, but stated to be 1′ high in the description.—N. angustifolia, *R. P.* (*Fl. Peruv. t.* 130), probably the same, but both names badly chosen, as the plant attains a height of more than 2′, and the inferior leaves are very broad.—Corolla 1½″–1″ long: tube 1‴, below the upper stricture 2‴ diam.—HAB. Jamaica!, *March;* [Mexico to Peru!].

18*. **N. Tabacum,** *L.* Annual; leaves oblong-lanceolate, pointed, sessile, inferior decurrent; cyme corymbiform; calyx 5-fid, one-third as long as the red corolla: lobes ovate-lanceolate, subequal; *corolla infundibular: tube clavate, not constricted: lobes deltoid-subulate, spreading;* capsule shortly exserted.—*Mill. Ic. t.* 185. *f.* 1. *Desc. Fl.* 6. *t.* 413.—Corolla 2″ long.—HAB. Naturalized in Antigua!, *Wullschl.*, cultivated in all the islands; [original habitat unknown].

7. ACNISTUS, *Schott.*

Calyx campanulate, 5(–4)-crenate. *Corolla* infundibular: lobes 5(–4)-valvate, slightly induplicative. *Stamens* inserted into the inferior part of the corolla-tube: anthers erect, longitudinally dehiscent. *Stigma* emarginate-capitate. *Berry* small, 2-celled. *Embryo* curved.—Shrubs *or* low trees; leaves *entire; flowers fascicled, lateral, odorous.*

19. **A. arborescens,** *Schlecht.* Unarmed; leaves elliptical or elliptical-oblong, pointed at both ends, petioled, glabrate, the younger ones hoary-pubescent; corolla white, gradually dilated from the base, 4–5 times as long as the calyx; stamens exserted, at length almost twice as long as the corolla.—*Plum. Ed. Burm. t.* 46. *f.* 1. *Jacq. Schœnbr.* 3. *t.* 325. *Desc. Fl.* 3. *t.* 177.—Atropa, *L.* Cestrum cauliflorum, *Jacq.*, *Sieb. Mart.* 278. A. Miersi, *Dun.*; Plumieri, *Mrs.*; ramiflorus, *Mrs.!*; cauliflorus, *Schtt.*: all these, and other forms, distinguished by authors, prove quite identical, the length of the stamens depending upon the state of development.—8′–10′ high; leaves 8″–2″, calyx 1‴–1½‴, corolla 5‴ long, its blunt recurved lobes usually pubescent along the margin; berry yellow, size of a pea.—Hab. Jamaica!, *Pd.*, *Wils.*, common in the mountains, from 2000′ upwards to 5000′ alt.; S. Vincent!, *Guild.*; [French islands!; Mexico, Venezuela!, New Granada!, Brazil!, Peru].

8. WITHERINGIA, *L'Hér.*, *Kth.* (*non Mart.*, *non Mrs.*)

(Sicklera, *Sendtn.* Fregirardia, *Dun.* Brachistus, *Mrs.*)

Calyx small, campanulate, truncate or minutely 4–5-dentate. *Corolla* subrotate: limb 4–5-partite, valvate. *Stamens* 4–5, inserted into the corolla-throat: anthers erect, longitudinally dehiscent. *Stigma* capitate or emarginate-capitate. *Berry* small, 2-celled.—Suffrutescent herbs *or* shrubs; leaves *usually entire;* pedicels *fascicled or single, usually between geminate leaves.*

Mr. Miers has well remarked, that this genus is nearly related to *Acnistus*, which is chiefly distinguished by its longer corolla-tube. But according to the law of priority, the names proposed by that author are objectionable, as from L'Héritier's figure the identity of his genus with *Brachistus* is evident. *Sarracha*, R. P. (with the exclusion of *S. punctata*, or *Pœcilochroma*, Mrs.), has the excrescent calyx of *Physalis*, though in a lesser degree: hence *Witheringia*, Mrs., is to be named *Athenæa*, Sendtn.

20. **W. macrophylla,** *Kth.* Suffrutescent, glabrescent; leaves membranaceous, ovate-oblong, pointed, entire; pedicels numerous, cernuous, as long as the shorter, half as long as the longer petiole of the unequal leaf-pair; *calyx truncate; corolla-lobes* 4, oblong-linear, twice or thrice as long as the shortly clavate tube; filaments bearded, much shorter than the anthers, which are exceeded by the style: stigma capitate.—Brachistus, *Mrs.*—Larger leaves 8″–4″, smaller 3″–1½″, pedicels 8‴–4‴, calyx ⅓‴–½‴, corolla-lobes 2½″–3‴, anthers 1‴ long; berry red, globose, 2‴ diam.—Hab. Jamaica!, *Wils.*, in mountain-woods at Manchioneal; [New Granada].

9. PHYSALIS, *L.*

Calyx 5-fid, inflated like a bladder around the included berry. *Corolla* shortly campanulate; limb plaited in the bud. *Stamens* 5, included, inserted into the inferior part of the corolla: anthers erect, longitudinally dehiscent. *Stigma* capitate. *Berry* 2-celled. *Embryo* curved.—Herbs; leaves *petioled;* pedicels *solitary in the bifurcations of the stem, or lateral:* flowers *pale-yellow in the West Indian species.*

21. **P. peruviana,** *L.* *Perennial, villous-pubescent;* leaves cordate or ovate, sharply pointed, few-toothed or entire; calyx-lobes lanceolate-acuminate: *keels of the bladder obsolete; corolla* (6‴–8‴ *long,*) *purple-spotted within; anthers violet.*—*Bot. Mag. t.* 1068.—P. pubescens, *R. Br.* (*non L. Cliff.*). P. edulis, *Sims.*—Hab. Barbadoes (*Ns.*); [New Granada! to Peru! and Brazil, naturalized in many warm countries of the globe].

22. **P. pubescens,** *L. Cliff.*, *Ns.* Annual; *stem pubescent;* leaves ovate or subcordate, pointed, toothed-sinuate or subentire; calyx-lobes lanceolate-acuminate: *bladder* 5-*angular; corolla* (3‴–4‴ *long,*) *purple-spotted within; anthers violet.*—*Jacq. Ic. Rar. t.* 39.—P. barbadensis, *Jacq.* P. hirsuta, *Dun.*—Hab. Barbadoes (*Jacq.*), a weed; [French islands; United States! to Brazil, naturalized in other tropical countries].

23. **P. fœtens,** *Poir.* Annual, *viscous-pubescent,* diffuse; leaves deltoid-ovate, coarsely angular-toothed; calyx-lobes lanceolate-acuminate: *angles of the bladder narrow, at length obsolete; corolla* (4‴ *long,*) *pale:* limb spreading; *anthers violet.*—*Barrel. Ic.* 151. Our specimens disagree with Nees's description (*Linnæa*, vi. *p.* 469) in having smaller leaves,

and smaller, spotless flowers: Barrelier's figure is tolerable.—HAB. Antigua!, *Wullschl.*; [Guadeloupe!, a weed; Mexico].

24. **P. minima,** *L.*, *Ns.* Annual, *pubescent;* leaves subcordate or ovate, pointleted, subentire, or toothed; calyx-lobes lanceolate-acuminate: *bladder* 5-*angular, corolla* (2''' *long*), *pale; anthers yellow.—Rheed. Malab.* 10. *t.* 71.—P. pruinosa, *L. ex desc.* (*exclus. syn. Dill.*). Linnæus's description is quite clear ("antheræ flavæ, calyx fructifer 5-angulus"), and the erroneous quotation of Dilleuius's figure was added at a later period.—HAB. Trinidad!, *Cr.*; [East Indies!, trop. Africa].

25. **P. Linkiana,** *Ns.* Annual, *glabrescent;* leaves ovate, pointed, coarsely serrate-dentate or remotely toothed; calyx-lobes lanceolate-acuminate: *keels of the bladder obsolete, or none; corolla* (4''' *long*), *pale,* or slightly tinged at the throat; *anthers violet.—Moris.* 3. *sect.* 13. *t.* 3. *f.* 22.—HAB. Jamaica!, *Al.*, *Dist.*, a weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Cuba! to French islands!; southern United States to Brazil].

26. **P. angulata,** *L.* Annual, *glabrescent;* leaves ovate or ovate-oblong, pointed, sinuate-dentate or subentire; *calyx-lobes deltoid: bladder sharply* 5-*angular; corolla* (4''' *long*), *entirely pale; anthers violet.—Dill. Elth. t.* 12. *f.* 12.—P. capsicifolia, *Dun.! ex Sieb. Mart.* 69.—HAB. Jamaica (*Lun.*): [Virgin and French islands!; United States! to Brazil!; East Indies].

10. CAPSICUM, *L.*

Calyx 5-dentate or subentire. *Corolla* rotate: limb plaited, with valvate lobes. *Stamens* 5, inserted into the corolla-throat: anthers longitudinally dehiscent. *Stigma* blunt. *Berry* 2(–3)-celled. *Embryo* curved.—Shrubs *or* herbs; leaves *subentire;* pedicels *fascicled, or single in the bifurcations of the stem, or lateral;* flowers *whitish in the West Indian species, with verdigris-green anthers.*

27. **C. frutescens,** *L.* Shrubby; leaves ovate, pointed, glabrous; *calyx at length truncate,* 10-nerved, *tapering into the thickened pedicel; berry elongated-conical.—Desc. Fl.* 6. *t.* 423.—C. baccatum, *Desc.* (*non L.*).—Berry red, or yellow, 6'''–12''' long.—HAB. Jamaica; S. Kitts!, *Els.*, Antigua!, *Wullschl.*; [all tropical countries].

28. **C. baccatum,** *L.* Shrubby; leaves ovate, pointed, glabrescent; *calyx* 5-*dentate, abruptly passing into the* slender, erect *pedicel; berry* small, *globose or ovoid-globose.—Sl. t.* 246. *f.* 2.—C. laurifolium, *Dun.*—Berry red, 3'''–4''' diam.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.*; [all tropical countries].

11. LYCOPERSICUM, *T.*

Calyx 5-partite. *Corolla* rotate: limb deeply 5-fid, plaited in the bud, with induplicative lobes. *Stamens* 5, inserted into the corolla-throat: filaments short: anthers cohering, longitudinally dehiscent along the interior side. *Stigma* blunt. *Berry* 2(–3)-celled. *Embryo* curved.—Annual herbs; leaves *pinnatisect:* segments *unequal;* flowers *cymose, lateral.*

29. **L. Humboldtii,** *Dun.* Pilose; leaves interruptedly pinnatisect: larger segments inciso-serrate, with a deltoid point; pedicels ebracteolate; *calyx half as long as the corolla;* berry globose.—*Willd. Hort. t.* 27. *Jacq. H. Vind. t.* 11. *Desc. Fl.* 5. *t.* 378.—Solanum Lycopersicum, *Jacq.*—In the cultivated *L. esculentum,* Mill. (Desc. Fl. 6. t. 405; 5. t. 377), the leaf-segments are more acuminate, and the calyx exceeds half the corolla: the larger size and irregularity of its berries is (as in *Capsicum*) the effect of monstrosity, and said to be wanting in the wild plant (*L. cerasiforme,* Dun.).—Flowers yellow; berry red, 4'''–6''' diam. —HAB. Jamaica!, *Wullschl.*; [Mexico to Brazil].

12. SOLANUM, *L.*

Corolla rotate: limb 5(9–4)-fid, plaited at the base, or 5(9–4)-partite: divisions valvate or induplicative. *Stamens* 5 (9–4), inserted into the corolla-throat: filaments short: anthers connivent (rarely cohering), devoid of a prominent connective, dehiscent by 2 pores (or at length longitudinally). *Stigma* blunt. *Berry* 2(–4)-celled. *Embryo* curved.

Sect. 1. MEGALOPORUS, *Sendtn.*—*Anthers ovate-oblong or oblong, blunt: pores large, introrse-terminal, often at length passing into longitudinal slits.*—Stem unarmed; flowers cymose.

* *Stem herbaceous.*

30. **S. nodiflorum,** *Jacq.* *Annual,* glabrescent: leaves ovate, cuneate at the petioled base, entire, or sinuate-dentate; cymes lateral, umbelliform, peduncled; *corolla* 5-*fid, twice as long as the* 5-*fid calyx;* filaments glabrous: anthers shortly oblong, at length longitudinally dehiscent; berry globose: *calyx at length reflexed.*—*Jacq. Ic. Rar. t.* 326: a large-leaved form of α.—This weed in the tropics represents *S. nigrum,* L., of the temperate zones, which latter is slightly distinguished by the calyx merely spreading from the fruit, and villous filaments: both are equally variable, and the said characters, proposed by A. Braun, require further confirmation.

α. Leaves entire; berry black.—S. caribæum, *Dun.*

β. *oleraceum,* Dun. Leaves sinuate-dentate; berry black.—*Desc. Fl.* 6. *t.* 404.—S. chenopodioides, *Desc.*

γ. *rubrum,* Mill. Leaves sinuate-dentate; berry red.—S. erythrocarpum, *Mey. Esseq. !:* a form with entire leaves.

HAB. Jamaica !, *Macf., Dist., March* (β); Antigua !, *Nichols., Wullschl.* (β, γ), S. Vincent !, *Guild.* (γ); Trinidad !, *Sch., Cr.* (β, γ); [all tropical countries, α, *e.g.* in Cuba ! and the French islands !].

** *Stem woody.*

† *Leaves glabrous, or nearly so.*

31. **S. Seaforthianum,** *Andr.* Shrubby, trailing, glabrous or early glabrate; *leaves* ovate, pointed, entire, petioled, *inferior, or all pinnately divided:* lateral segments smaller, 1–2-jugal; cymes peduncled, lateral, paniculate: pedicels diverging; *calyx* small, *minutely* 5-*dentate; corolla deeply* 5-*fid: segments ovate;* anthers ovoid; style incurved; berry globose, yellowish-red.—*Bot. Rep. t.* 504.—S. venustum, *Kth.*—Leaves, or their terminal segments $3''$–$1\frac{1}{2}''$, calyx $1'''$ long; corolla pale-red or lilac, $5'''$–$6'''$, berry $4'''$ diam.—HAB. Jamaica !; S. Vincent !, *Guild.,* Barbadoes; Trinidad !, *Cr.;* [Venezuela, Guiana !].

32. **S. triste,** *Jacq.* Shrubby, glabrous; leaves elliptical-oblong or oblong-lanceolate, pointed, entire, petioled, usually geminate: one in the pair smaller: vein-axils hairy beneath or glabrate; *cymes* peduncled, lateral, *scorpioid-nodding;* calyx small, 5-fid; *corolla* 5-*partite: segments ovate-oblong,* pointed; anthers ovoid-oblong, half as long as the corolla-segments; berry globose.—*Jacq. Amer. Pict. t.* 49. *Desc. Fl.* 3. *t.* 185.- S. nudum, *Kth., Dun. !* S. lævigatum, *Kth.,* a form with the pedicels less numerous. S. micranthum, *W. sec. Schlecht. Pl. Mexic. !*—A common species, variable in the breadth of the leaves, the form of the usually blunt, small calyx-lobes, and the style straight or curved: the allied *S. oblongum,* R. P. (*S. triste,* Kth.), has longer anthers, and the corolla-segments villous at the margin.—Leaves black in drying, $5''$–$3''$, peduncles $8'''$–$2'''$, longer pedicels $6'''$, calyx $1'''$ long; corolla white, $6'''$–$4'''$, berry $6'''$–$4'''$ diam., "yellow."—HAB. Jamaica !, *Dist., March;* S. Vincent !, *Guild.;* Trinidad !, *Sieb. Tr.* 22 *and* 309; [Cuba !, Martinique; Mexico !, Venezuela !, New Granada !, Peru !].

33. **S. acropterum,** *Gr.* (*n. sp.*). Shrubby, glabrous; leaves ovate-oblong or oblong, with a bluntish point, entire, petioled; cymes terminal, at length lateral, fastigiate or few-flowered: *pedicels winged,* with the wings long-decurrent from the calyx; *calyx half as long as the corolla, deeply* 5-*fid:* lobes oblong-linear, twice as long as their tube; *corolla* 5-*fid: lobes bluntly-deltoid;* anthers oblong; berry ovoid-globose.—Leaves solitary or approximate, chartaceous, $5''$–$3''$ long, arch-veined: petiole $8'''$–$4'''$ long; cymes shortly peduncled: pedicels $8'''$–$10'''$ long: wings $\frac{1}{2}'''$ broad at the top, passing into the middle nerves of the calyx; calyx $2\frac{1}{2}'''$ long; corolla glabrous, $8'''$ diam.: lobes as long as the obconical tube; anthers $1\frac{1}{2}'''$ long; style straight: stigma capitate; berry $5'''$ long, $4'''$ broad, black in drying.—HAB. Jamaica !, *Waters, Wils.,* Betty Hope's Estate, near Manchioneal, at $2500'$ alt.

†† *Leaves lepidote.*

34. **S. punctulatum,** *Dun.* Arboreous; branchlets densely lepidote with yellowish

scales; *leaves* elliptical or ovate, pointleted, petioled, entire or repand, dotted above with minute scales, usually more densely *lepidote beneath;* cymes terminal or lateral, long-peduncled: *pedicels* fastigiate, thickened above, *lepidote, as well as the flowers;* calyx 4-lobed, much shorter than the corolla: lobes roundish-deltoid; *corolla 4-partite: segments ovate-oblong, bluntish;* anthers oblong.—A tree or shrub, 30′ high; leaves 6″–4″, petiole 8‴–6‴ long; cymes irregularly dichotomous, 6–12-flowered: pedicels spreading or cernuous, 4‴–5‴, calyx 1½‴–2‴, anthers 2‴ long; corolla 10‴–8‴ diam.—HAB. Jamaica!, *Pd.*, *Wils.*, *Macf.*, Portland Gap, Manchester, in moist woods near Mandaville.

Sect. 2. PLAGIOPORUS.—*Anthers oblong, blunt: pores forming transverse slits, introrse-terminal or terminal.*—Stem unarmed; down stellate; cymes corymbiform, peduncled, usually terminal.

35. **S. Radula,** *V.* Shrubby, *scabrous,* with sessile stellate down; *leaves lanceolate,* acuminate at both ends, *subsessile,* or tapering into a short petiole, entire, *greenish* on both sides: hair-fascicles somewhat distant; cymes terminal or lateral, long-peduncled: flowers stellate-tomentose; *calyx 5-lobed,* half as long as the corolla: lobes ovate, bluntish; *corolla deeply 5-fid: lobes* ovate *bluntish;* anthers oblong: pores transverse, introrse; style inflexed; berry "globose."—*Miq. Surin. t.* 38.—Leaves 6″–3″ long, 12‴–8‴ broad; calyx 1½‴, anthers 1‴ long; corolla white, 4‴ diam.—HAB. Trinidad!, *Cr.*, common; [Cuba, French islands; Venezuela!, Guiana!, Brazil!].

36. **S. asperum,** *V.* Shrubby, *scabrous* with sessile stellate down; *leaves elliptical* or elliptical-oblong, pointleted, tapering into the winged petiole, entire, *greenish,* paler beneath: hair-fascicles distinct; cymes terminal, long-peduncled: flowers stellate-tomentose; *calyx broadly 5-dentate,* less than half as long as the corolla: teeth deltoid, half as long as their tube; *corolla deeply 5-fid: lobes* ovate-oblong, *pointed;* anthers oblong: pores transverse, introrse; style incurved; berry "globose."—*Dun. Solan. t.* 7.—10′–12′ high; leaves 8″–6″ long, 2½″–2″ broad: petiole 12‴–8‴ long, winged to the base; calyx 2‴, anthers 1‴ long; corolla 6‴ diam.—HAB. Dominica!, *Imr.;* [Cuba to French islands; Guiana!, Brazil!].

37. **S. callicarpifolium,** *Kth.* Shrubby, *scabrous* and tomentose above *with stipitate and sessile stellate down; leaves elliptical,* sharply pointed, *tapering into the petiole,* entire, scabrous-wrinkled and green above, *hoary-tomentose beneath;* cymes terminal, or at length lateral, long-peduncled: flowers stellate-tomentose; *calyx 5-fid,* half as long as the corolla: lobes deltoid; *corolla 5-fid: lobes* ovate-oblong, *bluntish;* anthers broadly oblong: pores transverse, introrse; style incurved above; berry globose.—S. asperum, *Sieb. Tr.* 20 (*non V.*).—Leaves 6″–2″ long, 3″–1″ broad: petiole 12‴–4‴ long, rarely winged to the base; calyx 2‴, anthers 1‴ long; corolla 5‴, berry 4‴ diam., the latter black in drying.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Sieb.*, *Lockh.*, *Cr.*, S. Anns; [Cuba!; Mexico!, Panama!, Guiana!].

38. **S. verbascifolium,** *L.* Shrubby, *wholly tomentose; leaves ovate,* pointed, *abruptly passing into the petiole,* entire: down soft, hoary beneath; cymes terminal, long-peduncled: flowers hoary-tomentose; *calyx 5-fid,* half as long as the corolla: lobes deltoid; *corolla 5-partite: lobes* ovate-oblong, *bluntish;* anthers oblong: pores transverse, terminal; style straightish; berry globose.—*Jacq. H. Vind.* 1. *t.* 13. *Wight, Ic. t.* 1398.—A shrub or low tree, 8′–12′ high, variable in the leaves, greenish or yellowish-grey above, in the down yellowish or hoary, appressed or spreading; leaves 10″–3″, petiole 1½″–½″, calyx 2‴–3‴, anthers 1‴ long: corolla white, 4‴–6‴, berry 4‴ diam.—HAB. Jamaica!, all coll.; Trinidad!, *Sieb. Tr.* 21; [Key West!, Cuba!, and Mexico! to Brazil!; Galapagos! to East Indies!].

Sect. 3. MICROPORUS, *Sendtn.*—*Anthers ovate-oblong or oblong, with minute pores at the bluntish point.*—Stem unarmed; flowers in lateral, simply umbelliform or cymbiform cymes, or solitary.

* *Calyx-divisions* 5 (Lycianthes, *Dun.*).

39. **S. havanense,** *Jacq.* Shrubby, *glabrous:* leaves lanceolate-oblong or elliptical-oblong, bluntish, tapering into the short petiole, entire; cymes corymbiform, usually few (–1)-flowered: *flowers large, blue; calyx deeply 5-fid,* one-fourth to one-sixth as long as

the corolla: lobes oblong, blunt, (sometimes geminately combined); *corolla* 5-*fid: lobes reniform-roundish, mucronate, shorter than the flattish-expanded tube;* anthers ovate-oblong; style straightish; *berry ovoid.—Jacq. Amer. Pict. t.* 48. *Bot. Mag. t.* 2708.—S. coriaceum, *Hook.* S. Hookerianum, *Spreng.* S. vaccinifolium, *Dun.:* a small-flowered form.—4′–7′ high, variable in the leaves, the breadth of the calyx-lobes, and the size of the flowers; leaves 4″–1½″, calyx 2‴, yellow anthers 2‴ long; corolla 16‴–8‴ diam.; berry dark-blue, 8‴–6‴ long.—HAB. Jamaica!, *Macf., Pd., Wils., March,* in dry, calcareous soil, and on maritime rocks, Manchester, Holland Bay, Manchioneal; [Cuba! to Martinique; Mexico to Peru].

** *Calyx truncate, its* 10 *nerves usually produced into inframarginal, exterior appendages* (Polymeris, *Dun.*).

40. **S. retrofractum,** *V.* Shrubby, trailing-flexuose, glabrescent or glabrous; leaves ovate, pointed, petioled, entire; cymes umbelliform, shortly peduncled; *calyx* truncate or repand, much shorter than the corolla: *appendages none; corolla* stellate, *flattish-expanded, glabrous; border mucronate-angular;* filaments slightly unequal: anthers ovate-oblong, half as long as the corolla; style straightish; berry globose.—*Dun. Solan. t.* 5.—S. longepedunculatum, *Berter.* S. stellatum, *Jacq.*, is perhaps a form with the 10 appendages of the calyx developed.—Leaves membranaceous, 4″–1½″, petiole 5‴–3‴, pedicels 1″, calyx 1‴–1½‴, anthers 1½‴ long; corolla purple, stellate with 5 discoloured rays, 12‴–8‴, berry 4‴ diam.—HAB. Jamaica!, all coll., in the mountains, Port Royal, Manchester, Westmoreland.

41. **S. neglectum,** *Dun.* Shrubby, puberulous with stellate down above, glabrescent; *leaves* ovate or ovate-oblong, pointed, petioled, entire, *glabrous above, puberulous or glabrate beneath:* cymes umbelliform, sessile; *calyx* externally appendiculate below the truncate border, one-third as long as the corolla: *appendages* 10, *oblong, blunt, spreading or recurved, about half as long as the tube* (rarely wanting); *corolla glabrous: limb sinuate*-5-*angular;* anthers oblong: *fifth filament twice as long as the rest;* style straightish: stigma clavate; berry globose.—*Plum. Ed. Burm. t.* 245. *f.* 4.—Leaves 6″–4″, the smaller in the pair 2″, petiole 6‴–8‴, pedicels 8‴–4‴, calyx 2‴, anthers 2‴ long; corolla 8‴–10‴, berry 8‴ diam.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad (*Sieb.*).

42. **S. lentum,** *Cav.* Shrubby, pubescent or tomentose with stellate down; *leaves* ovate or ovate-lanceolate, pointed, petioled, entire, *puberulous* (or pubescent) above, *tomentose* or *pubescent beneath;* fascicles few-flowered, sessile; *calyx* externally appendiculate below the truncate border, about one-third as long as the corolla: *appendages* 10, *thickish-filiform, blunt, erect, as long as the tube; corolla stellate, with the rays pubescent on the back: limb sinuate*-5-*angular;* anthers oblong: *fifth filament much longer than the rest,* equalling the other anthers; style straightish: stigma clavate; berry globose.—*Cav. Ic. t.* 308.—Leaves 3″–1½″ long, less sharply pointed than in the preceding; pedicels 6–2 in the fascicle, 8‴–12‴, calyx 2‴–3‴, anthers 2‴ long; corolla about 1″, berry 4‴ diam.—HAB. Trinidad!, *Cr.*, at La Ventilla; [Mexico!, Venezuela!, New Granada!].

Sect. 4. LEPTOSTEMON, *Sendtn.—Anthers slender, tapering above: pores minute, terminal or extrorse-terminal.*—Stem mostly armed with prickles.

* *Leaves unarmed, or prickly only on the midrib.*

† *Stem furnished with slender, straight prickles, or unarmed* (Graciliflora, *Dun.*).

43. **S. racemosum,** *L.* Shrubby, *unarmed,* stellate-puberulous, at length glabrescent, leaves oblong-lanceolate, acuminate, entire or repand, petioled; *cymes* lateral, *simply racemiform,* peduncled: pedicels at length cernuous; calyx 5-dentate, much shorter than the corolla; *corolla white,* 5-*partite:* segments lanceolate, pointed, somewhat longer than the stamens; *anthers* elongated, *nearly including the filiform style:* stigma minute; berry globose, red.—*Jacq. Amer. Pict. t.* 50.—Distinguished from unarmed specimens of the following by longer anthers.—4′ high; leaves 6″–2″, calyx 1‴, anthers 3½‴ long; corolla 10‴–12‴, berry 4‴ diam.—HAB. Jamaica!, *Pd.*, along the coast, Westmoreland; S. Kitts!, *Els.*, Dominica!, *Finl., Imr.*, S. Vincent!, *Guild.;* [S. Thomas!, French islands!, *Sieb. Mart.* 65].

44. **S. igneum,** *L.* Shrubby, stellate-puberulous, prickly on the stem and often on the midrib of the leaves (or unarmed): *prickles* yellow, *compressed-conical* at the base, *straight; leaves* oblong-lanceolate, *sharply acuminate*, entire or repand, petioled; *cymes* lateral, lax, *simply racemiform*, long-peduncled: pedicels cernuous; calyx 5-dentate, much shorter than the corolla; *corolla white*, *5-partite:* segments linear, bluntish, half as long again as the stamens; anthers linear; *style thickened at the exserted point;* berry globose, red.—*Sl. t.* 11. *f.* 3, referred by Linnæus to the following, but his species is clear from Plukenet, whose figure is the only one which he quotes. *Jacq. H. Vind.* 1. *t.* 14.—Prickles 3‴–1‴, leaves 6″–2″, calyx 1‴, anthers 2½‴ long; corolla 8‴–10‴, berry 3‴ diam.—HAB. S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Barbadoes (*Sl.*); [Cuba to Guiana].

45. **S. bahamense,** *L.* Shrubby, stellate-puberulous or pubescent-tomentose, prickly or unarmed on the stem or leaves: *prickles* tawny, *compressed-subulate* at the base, straight; *leaves* lanceolate-oblong or lanceolate, *with a bluntish or deltoid point*, sinuate-repand or repand-entire, petioled; *cymes* lateral, *short*, *simply racemiform*, long-peduncled: pedicels at length cernuous; calyx 5-dentate or 5-fid, much shorter than the corolla; *corolla purple*, 5-*partite:* segments linear, bluntish, somewhat longer than the stamens; anthers linear; *style thickened at the* included or shortly exserted *point;* berry globose, red.—*Dill. Elth. t.* 271.—3′–4′ high, variable; prickles thin, 3‴, leaves 4″–1½″, calyx 1‴, anthers 3‴ long; corolla 8‴, berry 2‴–3‴ diam.

α. Leaves sinuate, lanceolate-oblong: down at length scattered.

β. lanceolatum. Leaves subentire, undulate or repand, usually tomentose beneath.—*Sl. t.* 145. *f.* 3.

HAB. Bahamas!, *Swains.* (*β*); Jamaica!, all coll. (*α*, *β*); Antigua!, *Nichols.*, *Wullschl.*, S. Vincent!, *Guild.;* [Mexico].

†† *Stem furnished with recurved prickles; corolla* 5-*partite* (Juripeba, *Dun.*).

46. **S. lanceifolium,** *Jacq.* Shrubby, trailing, scabrous, prickly on the branches, petioles and midribs of the leaves: *all prickles short, recurved; down stellate*, scarce, minute, *leaving all parts green;* leaves oblong-lanceolate or ovate-lanceolate, long-acuminate, repand-entire or slightly angular, long-petioled; cymes lateral, lax, few-flowered: pedicels and *calyx unarmed; calyx* 5-fid, about one-fourth as long as the corolla: *lobes* subulate *with a long appendage;* corolla variegated-white, 5-partite: segments linear, pointed, slightly exceeding the anthers; berry globose, yellow.—*Jacq. Ic. Rar. t.* 329.—S. crotonoides, *Sieb.* (*non Dun.*). S. inæquale, *Prl.*, S. Preslei and calvifactum, *Dun.*, *ex syn. Sieb.*—Leaves membranaceous, 5″–4″, prickles 1‴–2‴, corolla 6‴, anthers 4‴ long.—HAB. Dominica!, *Imr.*, in mountain-woods; Trinidad!, *Sieb. Tr.* 132; [Martinique; Venezuela!].

47. **S. micracanthos,** *Lam.* Shrubby, scabrous, prickly on the branches, petioles, and midribs of the leaves: *all prickles short, recurved;* down stellate; *leaves* elliptical-oblong, pointed, entire, shortly tapering into the long petiole, dull-green above, *hoary-velvety beneath;* cymes lateral, corymbiform, shortly peduncled: pedicels and *calyx unarmed*, hoary-velvety; calyx 5-fid, about one-third as long as the corolla: lobes lanceolate-linear, long-acuminate; *corolla* 5-partite: *segments* subulate, *nearly twice as long as the unequal stamens;* berry globose, yellow.—S. obscurum, *Sieb. Trin.* 19!—Leaves 6″–2½″, prickles ½‴–1‴, corolla 5‴, anthers 2‴–3‴ long; berry 4‴–5‴ diam.—HAB. Trinidad!, *Sieb. Lockh.*, *Cr.*, on rocky hills; [Guadeloupe].

48. **S. scabrum,** *V.* Shrubby, trailing, scabrous, prickly on the branches, petioles and midribs of the leaves: *all prickles short, recurved, compressed below;* down stellate; *leaves* elliptical or ovate-lanceolate, *sinuate-angular*, petioled, *concolor, dull-green;* cymes lateral, diverging-racemiform or corymbiform; *calyx prickly*, 5-fid, one-third as long as the corolla: *lobes* subulate *with a short point;* corolla bluish, externally tomentose, 5-partite: segments oblong-lanceolate, little exceeding the anthers; berry globose.—S. volubile, *Sw.*—Leaves 5″–3″, prickles 1‴–2‴, corolla 6‴, anthers 4‴ long.—HAB. Carribean Islands (*Dun.*); [Haiti; Panama!, in savannahs, New Granada!].

49. **S. Juripeba,** *Rich.* Shrubby, prickly; *prickles of the branches* recurved, compressed at the base, *those of the petioles and midribs of leaves straight* (or wanting); down stellate; leaves elliptical, subentire or sinuate-angular, petioled, the younger ones hoary-pubescent beneath; *calyx unarmed*, shortly 5-lobed, *one-sixth to one-tenth as long as the*

corolla: lobes ovate, often mucronate; corolla bluish, externally tomentose, 5-partite: segments lanceolate-linear, acuminate, little exceeding the anthers; berry globose.—*Dun. Solan. t.* 15.—S. obscurum, *V.* S. stamineum, *Steud.!* S. heterophyllum, *Lam.:* a form with ternately approximate leaves. S. Rodschiedii, *Mey. Esseq.!:* a form with sinuate leaves and stout prickles.—Leaves 5″–3″ (–2″), prickles 1‴–4‴, corolla 6‴–10‴, anthers 6‴ long. —HAB. Trinidad!, *Lockh.*, in dry, cultivated ground; [Panama!, Venezuela!, Guiana!, Brazil!].

50. **S. jamaicense,** *Sw.!* Shrubby, *wholly tomentose,* prickly along the branches and midribs of the leaves: *all prickles recurved,* subcompressed, yellow; wool stellate; *leaves* rhomboid, sinuate-angular (or entire), *cuneate at the subsessile base;* cymes lateral umbelliform, subsessile; *calyx* usually prickly, 5-*partite,* half as long as the corolla: segments lanceolate, or linear, acuminate; corolla bluish or white, 5-partite: segments lanceolate, little exceeding the anthers; berry globose, yellow.—*Sl. t.* 144. *f.* 3, *Dun. Sol. t.* 20 *and* 22. —S. brevipilum, heterotridum, and cuneifolium, *Dun.*—Leaves 6″–3″ (–2″), prickles 3‴–1½‴, corolla 3‴, anthers 2‴ long; berry 3‴–2‴ diam.—HAB. Jamaica!, *Macf.*, *Al.*, *Wullschl.*, in waste ground; [Cuba! to Brazil!].

††† *Stem furnished with straight (rarely slightly recurved) prickles; corolla* 5-*fid, plaited at the base* (Torva, *Ns.*)

51. **S. torvum,** *Sw.* Shrubby, *tomentose,* prickly along the branches, petioles, and midribs of the leaves (or unarmed): *prickles* distant, *straightish,* subcompressed; wool stellate; *leaves* ovate, sinuate-angular or subentire, pointed, subcordate or truncate at the base, long-petioled, *scabrous above, hoary-velvety beneath;* cymes lateral, usually bifid, scorpioid-corymbiform: pedicels glandular; calyx unarmed, 5-fid, at length 5-partite, one-fourth as long as the corolla: lobes ovate, mucronate-acute; corolla whitish, stellate, 5-fid: lobes ovate-lanceolate; style incurved above; *berry globose.—Dun. Solan. t.* 23. *Jacq. Schœnbr.* 3. *t.* 324.—S. ferrugineum, *Jacq.*—Variable; leaves 8″–2″, prickles 1‴–2½‴, corolla 5‴–7‴, anthers 3‴ long; berry 4‴ diam.—HAB. Jamaica!, *Macf.*, *March*, *Wullschl.*, in hedges; S. Kitts!, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 25, *Cr.;* [Cuba! and Mexico! to Brazil and Ecuador!; Bermudas; East Indies!].

52. **S. inclusum,** *Gr.* Shrubby, *tomentose,* prickly along the branches, and rarely on the midribs of the leaves: *prickles* distant, *slender, straight;* wool stellate; *leaves* ovate, or ovate-oblong, repand-entire or slightly sinuate, bluntish, petioled, scabrous above, *hoary-tomentose beneath;* cymes lateral, few-flowered; calyx prickly at the base or unarmed, 5-fid, one-third as long as the corolla: lobes ovate or ovate-oblong, bluntish; *corolla* bluish, 5-fid: *lobes* ovate-lanceolate, *twice as long as the anthers; berry depressed-globose,* red, *surrounded by the excrescent, foliaceous calyx.*—S. tomentosum americanum, *Auct.* S. tomentosum, *Hort. Germ.* S. hybridum, *Dun.* (*non Jacq.*).—S. tomentosum, *L.*, of the Cape (S. coccineum, *Jacq. Ic. Rar. t.* 43.) has much smaller, pea-like berries, supported by a minute calyx.—Leaves 2″–3″, prickles 3‴–2‴, corolla 5‴–6‴, anthers 2‴ long; berry 8‴–10‴ diam., equalling or exceeded by the calyx.—HAB. Jamaica!, *Pd.*, St. Thomas, i. V.; [Cuba!, French islands!; Mexico to Guiana].

** *Leaves bearing stout, straight prickles on the veins and midrib* (Acanthophora, *Dun.*)

53. **S. stramonifolium,** *Jacq.* (*non Dun.*). Shrubby, *tomentose with stellate down,* prickly on the leaf-ribs and branches (rarely unarmed): prickles stout, straight, compressed or recurved on the branches; *leaves* broadly ovate, angular-pinnatifid, scabrous above, *hoary-tomentose beneath:* lobes deltoid, spreading; cymes lateral, subsessile, scorpioid-contracted; *calyx unarmed,* 5-*crenate,* one-fourth as long as the corolla: crenatures roundish or mucronate; *corolla* blue, 5-*partite,* externally *tomentose:* segments ovate-lanceolate; anthers ovate-lanceolate, incurved; *berry globose, tomentose,* yellow.—*Jacq. Ic. Rar. t.* 44.—S. toxicarium, *Rich.* S. demerarense, *Dun.!*—Leaves 8″–3″, yellow prickles 8‴–2‴, corolla 3‴–6‴, anthers 2‴–3‴ long; berry 6‴ diam.—HAB. Trinidad!, *Sieb. Tr.* 23, *Sch.;* [Guiana!, Brazil!].

54. **S. hirtum,** *V.* Shrubby, *tomentose with stellate down, long-hirsute on the pedicels*

and calyx, prickly on the leaf-ribs and branches: prickles slender, straight, compressed (or recurved on the branches); *leaves* subcordate-roundish or broadly ovate, sinuate-angular, scabrous above, *hoary-tomentose beneath;* cymes lateral, subsessile, scorpioid-contracted; *calyx deeply* 5-*fid*, half as long as the corolla: lobes ovate-oblong, pointed; *corolla* 5-*partite*, externally *hirsute;* anthers ovate-lanceolate, incurved; *berry globose, long-hirsute.—Vahl, Ic. t.* 21.—S. flavescens, *Dun.! (exclus.* β). S. Richardi, *Sieb. Tr.* 24!—Leaves 8″–3″, prickles 3‴–1‴, calyx-hairs 3‴, corolla 4‴–6‴, anthers 3‴–4‴ long; berry 6‴ diam.—Hab. Trinidad!, *Sieb., Sch. Cr.*

55. **S. mammosum,** *L.* Herbaceous or suffruticose, *densely villous with simple jointed hairs*, prickly on the leaf-ribs and stem: *prickles stout*, straight, compressed; leaves ovate, angular, sinuate; cymes lateral, few-flowered, contracted; calyx 5-partite, one-third to one-fourth as long as the corolla: segments subulate; *corolla blue*, 5-*partite, hairy:* segments lanceolate; anthers oblong-lanceolate, tapering from the middle; *berry* large, *conical, glabrous*, yellowish, supported by the small calyx.—*Sl. t.* 12. *f.* 1, the fruit. *Desc. Fl.* 3. *t.* 186.—S. pectinatum, *Dun.!*—3′–4′ high; leaves 4″–6″, yellow prickles 10‴–4‴, corolla 8‴–6‴, anthers 5‴, berry 2″ long.—Hab. Jamaica!, *Macf., Dist., Al.*, a nuisance in meadows; Antigua!, *Wullschl.;* [Haiti!, French islands!; Carolina and Mexico to Peru! and Guiana!].

56. **S. aculeatissimum,** *Jacq.* Suffruticose, *pilose with simple jointed hairs, or at length glabrous*, except on the leaf-margin, very prickly on the leaf-ribs, the stem, and often on the calyx: *prickles slender*, straight; leaves ovate, pinnatifid, rarely repand-entire, long-petioled: lobes ovate-oblong, often sinuate-dentate; cymes lateral, few-flowered; calyx 5-fid, one-third as long as the corolla: lobes ovate-lanceolate, acuminate; *co olla white*, 5-*partite, glabrescent:* segments oblong-lanceolate; anthers ovate-lanceolate; *berry globose, glabrous*, scarlet, supported by the small calyx.—*Jacq. Ic. Rar. t.* 41. *Dun. Solan. t.* 18.—S. ciliatum, *Lam.* S. myriacanthum, *Dun.:* the form with subentire leaves. S. reflexum, *Schrk.:* the same.—2′–4′ high; leaves 6″–4″, yellow prickles 4‴–7‴ (–2‴), corolla 4‴–5‴, anthers 3‴ long; berry 6‴–8‴ diam.—Hab. Jamaica!, *Al.*, in waste ground; Trinidad!, *Cr.;* [Cuba! and Mexico to Brazil!]

57. **S. fuscatum,** *L.* Suffruticose, *scabrous-puberulous with stellate down*, prickly: *prickles stout*, straight on the leaf-ribs and often on the calyx, shorter and often recurved on the stem; leaves ovate or ovate-oblong, pinnatifid-sinuate with deltoid lobes, long-petioled, the younger ones somewhat hoary beneath; cymes lateral, few-flowered; calyx 5-fid, half as long as the corolla: lobes ovate-lanceolate, acuminate; *corolla* bluish, externally *puberulous on the angles: limb* sinuate, *shortly* 5-*fid;* anthers oblong-lanceolate; *berry globose, glabrous, surrounded by the excrescent calyx.—Jacq. Ic. Rar. t.* 42.—S. campechiense, *L. ex Dill. Elth. t.* 268. *f.* 347.—4′–5′ high; leaves 7″–3″, yellow or tawny leaf-prickles 4‴–3‴, anthers 3‴–4‴ long; corolla 1″, berry about 1″ diam.—Hab. Antigua!, *Nichols., Wullschl.;* [Yucatan].

Sect. 5. Melongena, *Ns.—Anthers of* Leptostemon, *but their terminal pores forming transverse slits.*

58*. **S. Melongena,** *L.* Herbaceous or suffruticose, pubescent or tomentose with stellate down, prickly or unarmed: prickles distant, straightish (or recurved), short, compressed; leaves ovate or ovate-oblong, repand or sinuate, long-petioled; cymes lateral, few-1-flowered, peduncled; calyx 5–9-fid: lobes ovate, pointed; *corolla* blue, 5–9-*fid*, 5–9-androus: *lobes deltoid;* anthers oblong-lanceolate; *berry large, ovoid* (or subglobose), *supported by the excrescent calyx.—Plum. Ed. Burm. t.* 224. *f.* 2. *Desc. Fl.* 3. *t.* 187.—S. insanum, *L., Sw.* S. esculentum, melanocarpum, and Plumieri, *Dun.*—Corolla 5‴–8‴, anthers 3‴–2‴, berry 1½″–6″ long.—Hab. Naturalized and cultivated in Jamaica (*Lun.*) and the Caribbean islands; [introduced from trop. Asia].

Sect. 6. Heterandra (?) Heteraquartia.—*Anthers oblong, bluntish, with minute pores at the truncate point.*

59. **S. polygamum,** *V.* Shrubby, trailing, prickly or unarmed: prickles on the branches and leaves slender, straight; branches tomentose: down stellate; *leaves lanceolate-oblong*, bluntish, repand-entire, shortly petioled, *scabrous above, tomentose or scabrous-*

pubescent beneath; cymes lateral, few–1-flowered, sessile; *calyx deeply* 4–5-*fid, half as long as the small corolla*: *lobes oblong, blunt*; *corolla* white, 4–5-*partite*: *segments* ovate-oblong, bluntish, *twice as long as the anthers*; berry globose.—*Vahl, Symb.* 3. *t.* 55.—It approaches *Lycianthes* in the form of the anthers, but *Leptostemon* in habit and other characters, especially *S. Aquartia*, Dun., and *S. crotonoides*, Lam. (both *graciliflora* of Cuba).—Leaves 3″–2″, pedicels 3‴, corolla 2‴, anthers 1‴ long; berry 3‴ diam.—Hab. Trinidad!, *Pd., Lockh.*, in waste ground, Port of Spain; [S. Thomas, S. Croix].

13. CESTRUM, *L.*

Corolla infundibular or salver-shaped: tube clavate or filiform: limb short, induplicative. *Stamens* 5 (7–4), inserted into the corolla-tube: anthers longitudinally dehiscent. *Pericarp* baccate. *Embryo* straight.—Shrubs; leaves *entire*; cymes *usually extra-axillary, resembling a centripetal inflorescence*: flowers *usually fragrant, expanding at fixed hours, often changing colour during anthesis*: corolla-limb *pubescent at the margin.*

The teeth appearing on the filaments, are often suppressed in otherwise identical specimens, and the inflated corolla-base depends upon the growth of the ovary: hence both chief characters, upon which Dunal arranged the utterly confounded species of this genus, are quite obsolete. I call subsessile flowers those in which a short pedicel is developed late and above a joint.

* *Filaments very short, inserted into the corolla-throat.*

60. **C. vespertinum,** *L., Sw.! (non Dun.)*. Branchlets puberulous; leaves chartaceous-membranaceous, ovate-lanceolate or elliptical-oblong, bluntish, glabrescent: veins delicate; cymes contracted, few-flowered, subsessile: *flowers subsessile, white*; calyx 5-dentate: teeth subulate-deltoid; *corolla-tube filiform*, glabrous, *inflated abruptly at the throat*: lobes oblong-linear; stamens included, inserted into the corolla-throat: filaments as long as the anthers, entire; berry ovoid, blue, shortly tapering at the base.—*Jacq. Amer. Pict. t.* 16. *Jacq. Schœnbr. t.* 328. *Murr. in Nov. Comm. Got.* 5. *t.* 8.—Ixora alternifolia, *Jacq.* C. depauperatum, *Dun.* C. hirtum, *Sieb. (non Sw.)*. C. Pœppigii, *Sendtn.!*, a form with shorter flowers.—Leaves 2″–4″, calyx 1‴–1½‴, corolla 8‴–12‴ (–6‴), berry 3‴ long. —Hab. Dominica!, *Imr.*, St. Vincent!, *Guild.*; Trinidad!, *Cr.*; [French islands; Panama! to Peru! and equatorial Brazil!]

61. **C. pallidum,** *Lam.* Glabrous; leaves chartaceous-membranaceous, oblong or elliptical, with a bluntish point: veins delicate; cymes racemiform, or few-flowered: *flowers pedicellate, pale-yellow*; calyx 5-dentate: teeth ovate, blunt; *corolla-tube* clavate, *gradually dilated into the throat*: lobes ovate, blunt, at length reflexed, with the style exserted; stamens included, inserted into the corolla-throat: filaments as long as the anthers, entire; berry ovoid, blue, shortly tapering at the base.—*Sl. t.* 204. *f.* 2.—C. tinctorium, *Jacq.* (*Schœnbr. t.* 332) is to be compared: in the figure there are white flowers, and globose berries.—Leaves 5″–1½″, pedicels 1‴, calyx 2‴–1½‴, corolla 6‴–8‴, berry 3‴ long.—Hab. Bahamas!, *Swains.*; Jamaica!, *Al., March*, near Kingston; [Haiti!].

** *Filaments much longer than the anthers, inserted above or into the middle of the corolla-tube.*

62. **C. latifolium,** *Lam.* *Branchlets pubescent*; *leaves membranaceous*, ovate, pointed, glabrescent: *veins delicate*; cymes contracted, subsessile: *flowers subsessile*; calyx shortly 5-fid: lobes deltoid-subulate; *corolla-tube filiform, clavate*, gradually tapering, glabrous: *lobes lanceolate-linear*; stamens included, inserted above the middle of the corolla-tube: filaments entire; berry "oblong."—*Vahl, Eclog. t.* 10.—C. chloranthum, *Dun.!*—Leaves 6″–5″, calyx 1‴, corolla 12‴–10‴ long.—Hab. Trinidad!, *Sieb. Tr.* 143, *Cr.*, at S. Anne.

63. **C. macrophyllum,** *Vent.* *Glabrous* (except the axis of the cymes); *leaves chartaceous*, large, *oblong* or oblong-lanceolate, acuminate, arch-veined: *primary veins prominent beneath, at length impressed above*; cymes contracted, subsessile: *flowers subsessile*, yellowish, changing colour; calyx 5-dentate: teeth deltoid or minute; *corolla tube clavate*, gradually tapering, glabrous: *lobes ovate-lanceolate* or ovate-oblong; stamens included, inserted about the middle of the corolla-tube: filaments puberulous, entire or bearing a

tooth above the downy part; berry obovoid.—*Vent. Choix. t.* 18.—C. megalophyllum, *Dun.!* C. Bellasombra, *Dun. ex spec. Mader.* C. vespertinum, *Sieb. Mart.* 64! *ap. Dun.* C. Schottii, *Sendtn.*—*C. conglomeratum,* R. P., agreeing in the leaves, is slightly distinguished by orange-coloured cymes, broader corolla-lobes, and glabrous filaments.—Variable in the calyx-teeth, and the breadth of the corolla-lobes: the filament-teeth, usually wanting in our specimens, are very marked in cultivated ones; leaves 8″–4″, calyx 1‴–2‴, corolla 6‴–8‴ long.—Hab. Jamaica!, *Al., March;* Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 176, *Sch.;* [Cuba! and Guatemala! to Brazil; introduced into Madeira!].

64. **C. hirtum,** *Sw.! Branchlets shaggy with denticulate hairs; leaves* chartaceous, *ovate-oblong* or ovate-lanceolate, bluntish at the point, subcordate or roundish at the base, arch-veined: *primary veins prominent beneath:* shaggy down persistent on the midrib; cymes contracted, subsessile: *flowers subsessile,* greenish-white; calyx 5-dentate: teeth deltoid; *corolla-tube clavate,* gradually tapering: *lobes ovate, bluntish;* stamens included, inserted about the middle of the corolla-tube: filaments pubescent below their tooth; berry ovoid, black.—*Jacq. Schœnbr. t.* 421.—C. hirsutum, *Jacq.*, a form with the leaves auricled by the development of axillary gems.—Leaves 5″–2″, calyx $1\frac{1}{2}$‴–2‴, corolla 6‴–8‴, berry 6‴ long.—Hab. Jamaica!, *Sw., Macf., Pd., Wils.*, in mountain-woods, S. Thomas i. E., Westmoreland; [Cuba!].

65. **C. laurifolium,** *L'Hér. Glabrous* (except the axis of the cymes); *leaves leathery,* shining, elliptical, obovate or oblong, bluntish or blunt: *veins inconspicuous* or delicate; cymes contracted, subsessile: *flowers shortly pedicellate,* greenish-yellow, changing colour; calyx 5-dentate: teeth minute or deltoid; *corolla-tube clavate,* gradually tapering, glabrous: *lobes ovate-roundish or ovate,* blunt; stamens included, inserted above the middle of the corolla-tube: filaments glabrous, entire or bearing a tooth above the base; berry ovoid.—*L'Hér. Stirp. t.* 34. *Bot. Mag. t.* 2929.—C. alaternoides, *Desf.* C. subtriflorum, *Dun.!* —Leaves $4\frac{1}{2}$″–2″, pedicels $\frac{1}{2}$‴, calyx $1\frac{1}{2}$‴, corolla 8‴–6‴, berry 6‴–5‴ long.—Hab. Antigua!, *Wullschl.;* Trinidad!, *Sieb. Tr.* 180; [Cuba!, Portorico!, French islands].

66. **C. nocturnum,** *L. Glabrous; leaves chartaceous-leathery,* ovate or ovate-oblong, with a bluntish point: *veins delicate;* cymes peduncled, racemiform, exceeding the petiole: *inferior pedicels often as long as the calyx;* flowers greenish-yellow; calyx 5-dentate, about one-third as long as the corolla-tube: teeth ovate-roundish or deltoid; *corolla-tube clavate,* gradually tapering, glabrous: *lobes ovate, blunt;* stamens included, inserted above the middle of the corolla-tube; filaments puberulous below, entire, or bearing a tooth above the base; berry ovoid-oblong.—*Dill. Elth. f.* 185. *Jacq. Schœnbr. t.* 329.—C. fœtidissimum, *Jacq.*—Leaves 4″–$2\frac{1}{2}$″, calyx 3‴–2‴, corolla 8‴–9‴ long.—Hab. Jamaica!, *Al., M'Nab, Pd., March,* in mountain-woods; Dominica!, *Imr.;* [Cuba!].

67. **C. diurnum,** *L. Glabrous; leaves chartaceous-leathery,* ovate-oblong, bluntish: *veins delicate;* cymes peduncled, contracted: *flowers* white, *subsessile;* calyx 5-dentate: teeth minute or deltoid; *corolla-tube clavate,* gradually tapering, glabrous: *lobes roundish, reflexed;* stamens included, inserted below the throat: filaments entire, glabrous, about thrice as long as the anthers; berry subglobose.—*Dill. Elth. f.* 186. *Jacq. Schœnbr. t.* 331.—C. odontospermum, *Jacq.* C. Forsythi, *Dun.* C. fastigiatum, *Jacq.* (*l. c. t.* 330): a variety with longer peduncles.—Leaves 4″–3″, calyx 1‴, corolla 6‴–8‴ long; berry 3‴–4‴ diam.—Hab. Caribbean Islands (*Dun.*); [Cuba!, in saline soil, S. Jean!].

CXIV. BIGNONIACEÆ.

Stamens and *corolla* of *Scrophularineæ,* but anther-cells mostly distinct, contiguous at their base. *Ovary* superior, many-ovulate, with the ovules distant from the axis, inserted along each margin of a central, placentary dissepiment, rarely paracarpous: carpophylls 2. *Seeds* compressed, often winged, sessile, mostly transverse. *Embryo* exalbuminous: cotyledons large, foliaceous, mostly emarginate.—Woody, rarely herbaceous plants; leaves *often compound, usually opposite and exstipulate.*

Drugs are obtained from *Crescentia, Tecoma leucoxylon* and *stans,* and *Bignonia æquinoctialis.* The hard shells of *Crescentia Cujete* (the Calabash-tree) are turned into bottles and other household articles. *Jacaranda* (the Palisandre-wood), *Catalpa,* and *Tecoma* afford timber.

1. CRESCENTIA, *L.*

Calyx 2-partite or 2-fid, deciduous. *Corolla* campanulate: limb unequally 5-fid or subentire. *Stamens* didynamous. *Ovary* 1-celled. *Stigma* 2-lamellate. *Fruit* indehiscent, pulpy: seeds compressed, wingless.—Glabrous trees *or* shrubs; leaves *alternate or fascicled, simple, entire;* peduncles *often arising from the trunk.*

1. **C. Cujete,** *L. Leaves spathulate,* subsessile, chartaceous, *fascicled;* calyx 2-partite; corolla transversely plaited below: lobes dentate-undulate; fruit large, subglobose: *shell hard.—Jacq. Amer. Pict. t.* 167; *Tuss. Fl.* 2. *t.* 19; *Desc. Fl.* 4. *t.* 244.—A tree; leaves 8″–4″, variegated corolla 3″–2″ long; fruit 1′–2″ diam.—Hab. Jamaica!, S. Kitts!, Antigua! and all other islands; [Cuba! and Mexico to Brazil!].

2. **C. cucurbitina,** *L. Leaves obovate-oblong or oval-oblong,* shortly petioled or subsessile, rigid, *scattered;* calyx 2-partite; corolla unequally 5-lobed; fruit ovoid, with a blunt point: *shell brittle.—Plum. Ed. Burm. t.* 109; *Desc. Fl.* 3. *t.* 182.—A tree; leaves 10″–3″, dusky-variegated corolla 2½″, fruit 3″ long.—Hab. Jamaica!, *Pd., Dist., Wils.,* along the dry, rocky coast; S. Vincent!, *Guild.;* Trinidad (*Sieb.*); [Cuba! to Venezuela!].

The poisonous *C. lethifera,* Tuss. (*Fl.* 4. *t.* 17), of Haiti, and perhaps other West Indian islands, is distinguished by a 2-fid calyx, a whitish corolla and its limb subentire: its synonyms are the shrubby *C. cucurbitina,* Seem. Panam.!, and *C. obovata,* Benth. (*Sulph. t.* 46).

2. SCHLEGELIA, *Miq.*

Calyx tubular, persistent. *Corolla* salver-shaped: lobes 5, slightly unequal. *Stamens* didynamous: anther-cells ovate or oblong, diverging-pendulous. *Ovary* half-2-celled by the introflexed carpophylls: placentary dissepiment none. *Stigma* 2-lamellate. *Fruit* indehiscent, pulpy: seeds small, wingless.—Shrubby, rooting, glabrous climbers; leaves *opposite, simple, entire, leathery, tapering into a short petiole;* pedicels *ebracteolate;* calyx *coloured.*

* *Corolla-tube campanulate above the base.*

3. **S. parasitica,** *Mrs.* Leaves elliptical or elliptical-oblong, blunt; fascicles few-flowered, longer than the petioles, axillary or inserted into the bark; pedicels cernuous, jointed above, 2-bracteolate above the base: bracteoles minute, lanceolate; *calyx* shortly campanulate, *truncate,* one-third to one-fourth as long as the corolla-tube; corolla-tube campanulate: lobes roundish; *anther-cells ovate,* blunt; "fruit globose: shell brittle."—Tanæcium, *Sw.*—Leaves 6″–4″ long, veiny beneath; corolla crimson: tube 1″ long; fruit "size of a small apple."—Hab. Jamaica!, *Al., Pd., March, Wullschl.,* rooting on trees; [Cuba!].

4. **S. axillaris,** *Gr.* (*n. sp.*). Leaves oval, rounded at the top; fascicles axillary, few-many-flowered, equalling the petiole: pedicels as long as the calyx, jointed above, 2-bracteolate below the middle: bracteoles minute, lanceolate, rigid; *calyx* shortly campanulate, *broadly 3-crenate–2-lipped;* lips one-third to one-fourth as long as their tube: superior lip reniform-rounded, 2 inferior crenatures bluntly deltoid; corolla-tube campanulate: lobes roundish; *anther-cells ovate,* blunt.—Nearly allied to the preceding, corolla apparently smaller, but not yet full-grown in our single specimen; veiny leaves 6″–3″, pedicels 3‴ long; stamens didynamous, with a fifth sterile filament: anther-cells diverging downwards; stigma narrowly 2-lamellate; placentæ many-ovulate, almost touching each other with their dilated border, but quite distinct in the middle of the cell.—Hab. Dominica!, *Imr.*

** *Corolla-tube slender, cylindrical.*

5. **S. violacea,** *Gr.* Leaves elliptical-oblong or elliptical, blunt, dotted; *pedicels* ternate or single, *in a short, terminal corymb,* not jointed, 2-bracteolate at the middle: bracteoles linear; *calyx cylindrical, elongated, shortly 2-lipped,* more than half as long as the corolla-tube: lips minutely 2–3-dentate, one-fourth as long as their tube; corolla-lobes ovate-oblong: tube narrowly cylindrical; *anther-cells linear-oblong,* blunt.—*Aubl. t.* 254. Besleria, *Aubl.*—S. lilacina, *Miq.* (*Surin. t.* 36 *sin.*), is perhaps a form with smaller flowers.

—Leaves 6″–3″ long, shining above, revolute at the margin, veiny, with all the younger parts somewhat powdered with minute, white points; pedicels 8‴–10‴, calyx 12‴, corolla-tube 20‴–24‴, lobes 2‴–3‴ long.—HAB. Trinidad!, *Cr.*, at S. Anne; [Guiana].

3. JACARANDA, *Juss.*

Calyx tubular. *Corolla* campanulate above a slender base: limb unequally 5-lobed. *Stamens* didynamous, with the fifth sterile one bearded at the top: anther-cells diverging-pendulous, or one of them abortive. *Ovary* 2-celled by the introflexed carpophylls slightly cohering in the middle. *Stigma* 2-lamellate. *Capsule* woody, flat-compressed, loculicide: seeds winged, inserted along the middle line of the valves, parallel to them: dissepiment obsolete or disappearing.—Trees: leaves *opposite, often 2-pinnate; flowers in a terminal panicle, usually blue.*

6. **J. cærulea,** *Gr. Glabrous;* leaves impari-2-pinnate: pinnæ 4–8-jugal, leaflets 8–17-jugal, obliquely rhomboid-oblong, bluntish; panicle lax; calyx small, 5-dentate; *corolla* blue, *glabrous;* one of the anther-cells abortive; *capsule oval-roundish, notched at the rounded top.*—*Catesb. Carol.* 1. *t.* 42.—Bignonia, *L.* J. bahamensis, *DC.* (*non R. Br.*, who states his species to have a silky corolla).—Leaflets 8‴–10‴, calyx 2‴–3‴, corolla 1½″, capsule 2″ long.—HAB. Bahamas!, *Swains.*, Providence; [West Indies!, *West.*].

J. bahamensis, R. Br., is unknown to me; *J. Sagræana*, DC. (*syn.* Tanæcium paniculatum, *Sieb. Mart.* 81!), of Cuba! and Martinique, has a shorter puberulous corolla and different capsule.

4. CATALPA, *Scop.*

Calyx deeply 2-lobed. *Corolla* campanulate: limb unequally 5-lobed. *Fertile stamens* 2: one of the anther-cells erect, the other pendulous. *Ovary* 2-celled. *Stigma* 2-lamellate. *Capsule* siliquiform, subcylindrical, loculicide: seeds woolly, or with a fringe at both ends, uniserial along the border of the placentary dissepiment, parallel to it.—Glabrous, large trees; leaves *simple, opposite or whorled, long-petioled; flowers in a lax terminal panicle.*

7. **C. longisiliqua,** *Cham.* Leaves ovate-oblong or oblong-lanceolate, bluntish, entire; calyx-lips entire, roundish-mucronate; capsule long-filiform, pendulous; *seeds linear,* acuminate at both sides, *wingless,* silky-woolly chiefly at the points.—*Jacq. Amer. Pict. t.* 261. *f.* 50: the seed. *Tuss. Fl.* 4. *t.* 37. *Desc. Fl.* 1. *t.* 18.—Bignonia, *Jacq.* (B. longissima, *ej.*, a misprint, corrected by himself). B. Quercus, *Lam.* Catalpa longissima, *Sims.*—Leaves 3″–5″, calyx 2‴, rosy-white corolla 10‴–8‴, capsule 2′ long.—HAB. Jamaica!, *Al.*, *Wils.*, *M'Nab*, *Don*; [Haiti, S. Thomas].

5. TECOMA, *Juss.*

Calyx tubular; limb usually shortly 2-lipped. *Corolla* infundibular: lobes 5, slightly unequal. *Stamens* didynamous: anther-cells diverging. *Ovary* 2-celled. *Stigma* 2-lamellate. *Capsule* siliquiform, loculicide: seeds winged at both sides, uniserial along the border of the placentary dissepiment, parallel to it.—Trees *or* shrubs, *rarely scandent;* leaves *in our species opposite, compound; flowers usually in terminal corymbs.*

Sect. 1. TABEBUIA, *Gomez*, emend.—*Calyx-limb unequal. Corolla-tube gradually dilated. Capsule-valves entire.*—Leaves digitate or simple.

* *Leaves lepidote with minute, usually distant scales; flowers rosy or white.*

8. **T. Berterii,** *DC.* Glabrous, erect; leaves leathery, lepidote chiefly beneath: *leaflets* 3 (–5), spathulate-lanceolate or elliptical-oblong, bluntish, *entire: lateral* subsessile, the middle shortly petiolulate; corymbs few–1-flowered; calyx campanulate, lepidote, one-sixth to one-fourth as long as the corolla: lips subentire, rounded: corolla rosy, glabrous, puberulous within; stamens deeply included: *anther-cells oblong-linear, straight; capsule* linear, *subcylindrical: valves keeled;* seeds as broad as each oblong wing.—Tabebuia triphylla, *DC.*, a form with larger, obovate-oblong leaflets. Bignonia triphylla, *Spreng*, *L.?*—Leaflets 2″–1″ (–4″), corolla 2½″–2″, capsule 4″ long.—HAB. Jamaica!, *M'Nab;* Haiti, Portorico!, S. Thomas!].

9. **T. leucoxylon,** *Mart.* Glabrous, arboreous; leaves rigid, lepidote, often whitish beneath: *leaflets* 5 (3–8), lanceolate-oblong or linear-oblong, bluntish, *entire, all petiolulate;* corymbs few(–1)-flowered; calyx campanulate, lepidote, one-sixth to one-fourth as long as the corolla: lips mucronate, superior often longer, inferior 2-fid; corolla rosy (or white), glabrous, puberulous within; stamens deeply included: *anther-cells oblong-linear, straight; capsule* linear, *subcompressed: valves* smooth, *ecarinate;* seeds as broad as each oblong wing.—*Plukn. Alm. t.* 200. *f.* 4. *Catesb. Carol.* 1. *t.* 37. *Bot. Repos. t.* 43. *Desc. Fl.* 3. *t.* 204: flowers wrongly yellow.—Bignonia, *L. ex ic. Plukn., Sw.!* B. pentaphylla, *L. ex ic. Catesb.* (*non Sw., non Miq.*).—A large tree: wood and bark whitish; leaflets 3″–1″, petiolules 6‴–2‴, corolla 2½″–2″, capsule 8″–6″, seed-wings 4‴ long,—Hab. Bahamas!, *Swains.;* Jamaica!, *Macf., Bancr., Wils.,* on river-banks; Barbadoes (*Plukn.*); [Cuba! to Guiana!].

10. **T. pentaphylla,** *DC.* (*exclus. syn. L.*). Glabrous, arboreous; leaves rigid, minutely lepidote: *leaflets* 5 (7–3), elliptical-oblong, elliptical or elliptical-lanceolate, bluntish, *entire, all petiolulate:* the middle petiolules long; corymbs many–few-flowered; calyx campanulate, lepidote, one-seventh to one-fifth as long as the corolla: lips rounded, inferior 2-fid; corolla white or rosy, glabrous, puberulous within; stamens deeply included: *anther-cells oblong-linear, straight; capsule* linear, elongated, *subcylindrical: valves* 3-*carinate;* seeds as broad as each oblong wing.—Bignonia, *West* (*non L.*).—A timber-tree: bark whitish; leaflets 3″–6″, middle petiolule 12‴–20‴, inferior ones 3‴–6‴, corolla 3″–2½″, capsule 11″–8″, seed-wings 5‴ long.—Hab. Jamaica!, *Pd., Al., March; Antigua!, Wullschl.,* Montserrat, S. Lucia; [Cuba! to French islands!; Panama!].

11. **T. platyantha,** *Gr.* (*n. sp.*). Glabrous, arboreous; leaves rigid, minutely lepidote: *leaflets* 5(–4), elliptical or ovate-oblong, with a bluntish point, subentire-repand, *all petiolulate;* corymbs lax; *calyx broadly campanulate, one-third as long as the corolla,* closed in the obovoid bud, at length shortly 2-lipped: lips rounded, entire; corolla white, glabrous; *stamens equalling the corolla-tube: anther-cells ovate-oblong, bluntish,* diverging-pendulous; *capsule* linear, *subcompressed: valves obtusely keeled.*—Tabebuia hæmantha, *DC.,* is apparently allied, but the corolla in our species is 4‴ broad at the base, 1″ diam. at the summit.—A small tree; terminal leaflets 7″–4″, inferior 3″–2″, petiolules 1½″–1″ long, inferior shorter; calyx 8‴–10‴, corolla 2″, capsule 4″ long.—Hab. Jamaica!, *Pd., March,* on rocks, S. James.

** *Leaves devoid of scales; flowers yellow.*

12. **T. serratifolia,** *Don. Glabrous,* arboreous; leaves chartaceous, devoid of scales: *leaflets* 5 (6–4), oblong-lanceolate, acuminate, *serrulate above the base, all petiolulate;* corymbs umbelliform; *calyx* campanulate, *powdery,* one-seventh to one-sixth as long as the corolla, shortly 5-lobed: lobes unequal, deltoid; corolla "yellow," glabrous; stamens deeply included: *anther-cells oblong, incurved at the top.*—Bignonia, *V.*—Terminal leaflets 8″–6″, inferior 3″–2″, superior petiolules 20‴–10‴, inferior 6‴–4‴, corolla 2″–2½″ long, the latter narrowly infundibular.—Hab. S. Vincent!, *Guild.;* Trinidad (*V.*).

13. **T. spectabilis,** *Planch.* Erect; *down rusty-yellow, stellate;* scales none; leaves chartaceous, hairy, with the down at length scattered, as long as the tomentose petiole: *leaflets* 5, oblong-lanceolate, shortly acuminate, *subentire, all petiolulate;* corymbs contracted; *calyx* campanulate, *rusty-tomentose,* one-fifth to one-fourth as long as the broad corolla, 5-lobed: lobes ovate; corolla "yellow," puberulous, villous within; stamens deeply included: *anther-cells oblong-linear, incurved; capsule* linear, *subcompressed, tomentose: valves keeled;* seeds broader than the terminal part of the oblong wing.—*Fl. des Serres,* 9. *t.* 948.—Leaflets 5″–3″, terminal petiolule 12‴, inferior ones 5‴–3‴, corolla 2″, capsule 8″–10″ long.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Venezuela].

Sect. 2. Eutecoma, *Endl. Calyx-limb* 5-*dentate, equal. Corolla-tube ventricose above the base. Capsule-valves at length* 2-*partite.*—Leaves impari-pinnate, opposite.

14. **T. stans,** *Juss.* Glabrous, *erect,* shrubby; leaves impari-pinnate: *leaflets* 2–5-*jugal,* oblong-lanceolate, acuminate, *serrate; flowers racemose, yellow;* calyx half as long as the narrow part of the campanulate corolla-tube: teeth pointed; *stamens included:* anther-cells lanceolate, straight; capsule linear, acuminate, subcompressed.—*Jacq. Amer. Pict.*

t. 176.—Bignonia, *L.* T. sambucifolia, *Kth.*—4′–8′ high, variable in the breadth of the leaflets; corolla 2″–1½″, capsule 8″–4″ long.—HAB. Jamaica!, all coll., common on rocky or gravelly soil; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*; Trinidad!, *Cr.*, *Sch.*; [Cuba! and Mexico! to Tucuman!].

T. capensis, Lindl., (a climber, with exserted stamens) is cultivated or naturalized in S. Kitts!

6. BIGNONIA, *L.*

Calyx campanulate, usually closed in the bud. *Corolla* campanulate or infundibular: lobes 5, often unequal. *Stamens* didynamous: anther-cells diverging. *Ovary* 2-celled: stigma 2-lamellate. *Capsule* siliquiform, flat-compressed, marginicide: seeds winged at both sides, uniserial along the border of the flat, placentary dissepiment, parallel to it.—Shrubby climbers; leaves *opposite, 2-foliolate, with a terminal tendril, or 3–1-foliolate.*

* *Calyx closed in the bud, at length truncate or denticulate; inflorescence terminal.*

15. **B. æquinoctialis,** *L.* *Glabrous; branchlets angular,* usually tetragonal, or at length angular-subterete; leaflets 2 (–3), ovate-oblong or ovate, acuminate or pointleted, entire; *flowers* large, rosy with stripes, *corymbose;* calyx truncate; *corolla* campanulate above the base, *roughish;* anther-cells oblong, straightish; capsule long, broadly linear, blunt at the margin: *valves slightly keeled;* seeds broadly rounded at the extremity: wings opaque, nearly as broad as the middle part.—*Desc. Fl.* 2. *t.* 100.—B. spectabilis, *V.* B. sarmentosa, *Bertol.*—Leaflets 6″–3″, corolla 2″–3″, capsule 18″–12″ long; seeds (the wings included) 1½″ broad, 10‴ long.—HAB. Dominica!, *Imr.*; [Portorico! and Mexico! to Guiana! and equat. Brazil!].

16. **B. laurifolia,** *V.* *Branchlets puberulous* or glabrescent, *cylindrical; leaflets* 2, elliptical or elliptical-oblong, bluntish, *glabrous,* reticulated-veiny, entire; *flowers* rosy, *paniculate;* calyx truncate or repand; *corolla* campanulate, *tomentose;* anther-cells shortly oblong, blunt, straightish.—B. Sinclairii, *Benth.!*—Leaflets 3″–6″, corolla 1″–2″ long.—HAB. Trinidad!, *Lockh.*; [Guadeloupe!; Panama!, Ecuador!, Venezuela!, Guiana!].

17. **B. mollis,** *V.* *Branchlets tomentose* or glabrescent, *cylindrical; leaflets* 3 (–2), ovate or ovate-oblong, pointed, velvety, at length puberulous above, *tomentose* and veiny *beneath,* repand-entire; *flowers paniculate;* "calyx minutely 5-dentate; corolla pubescent;" capsule linear: *valves* flat, *keeled* with a filiform midrib; seeds subtruncate-oblong: wings pellucid, half as broad as the middle part.—*Vahl, Ic. t.* 10.—Flowers precocious, purple (*Cr.*), about 1″ long (*Duchass.*); leaflets 5″–1½″, capsule 10″–2″ long; seeds (the wings included) 1″–1½″ broad, 4‴ long.—HAB. Trinidad!, *Cr.*; [Panama!, Venezuela!, Guiana].

** *Calyx-lobes unequal: inflorescence axillary.*

18. **B. Martini,** *DC.* Glabrous; branchlets cylindrical; leaflets 2, ovate, subcordate at the complicated base, pointleted, entire; *racemes* axillary, *few-flowered;* pedicels nodding, as long as the calyx; *calyx obconical,* 3(–5)-lobed; corolla campanulate above the slender base, glabrous; anther-cells ovoid-oblong; capsule long, linear: valves flat, sharply keeled; seeds oblong: wings pellucid above, twice to thrice as broad as the roundish middle part.—Leaflets 4″–3″ long: tendril formed by the abortion either of the terminal or a lateral leaflet; calyx 5‴–7‴, corolla 2″, capsule 18″ long, the latter 8‴ broad; seeds (the wings included) 20‴–18‴ broad, 7‴–6‴ long.—HAB. Trinidad!, *Cr.*; [Guiana!].

19. **B. unguis,** *L.* Glabrous; branchlets angular, at length cylindrical; leaves stipulate: leaflets 2, shining, elliptical or elliptical-lanceolate, crenulate-subentire; *fascicles* 2(4–1)-flowered, precocious, at length axillary; *calyx broadly campanulate,* loose, *obliquely* 5-*crenate:* crenatures broad; *corolla yellow,* glabrous: tube subcylindrical; anther-cells oblong, incurved; capsule long, narrowly linear, blunt at the border, slightly keeled; seeds linear-oblong: wings pellucid at the extremity, much broader than the middle part.—*Desc. Fl.* 3. *t.* 199.—B. æquinoctialis, *Sieb. Mart.* 164!—Tendrils often 3-fid, leaflets variable; calyx 6‴–8‴, corolla 1½″–3″, capsule 18″–12″ long, the latter 4‴ broad; seeds (the wings included) 15‴–12‴ broad, 2‴ long.—HAB. Antigua!, *Nichols.*, *Wullschl.*, Dominica!, *Imr.*; [Cuba! to French islands!].

20. **B. rufinervis,** *Hoffmanns.* Glabrous; branchlets cylindrical; leaflets 2–3, oval,

pointleted, repand-entire, arch-veined: primary veins prominent beneath; *racemes* axillary, about *as long as the petiole:* pedicels spreading-erect, shorter than the calyx; *calyx* closed in the bud, *coloured, campanulate-tubular,* half as long as the corolla, at length *unequally 2-lipped;* corolla orange-yellow, roughish: tube cylindrical; anther-cells ovoid.—Tabebuia, *DC.!* B. crucigera, *Berter.!* (*non L.*).—Leaflets 6″–3½″, calyx 1½″–1″, corolla 3″–2½″ long.—HAB. S. Vincent!, *Guild.*; [Venezuela!, Guiana!, Pernambuco!].

7. MACFADYENA, *A. DC.*

Character of *Bignonia*, but calyx 1-lipped or spathaceous.—Glabrous, shrubby climbers; leaflets 2, *with a tendril, or* 3, *shining above.*

21. **M. uncinata,** *A. DC.* Branchlets cylindrical; leaflets 2, ovate or ovate-lanceolate, pointleted, entire; racemes axillary, sessile, few-flowered; *calyx* campanulate, 1-*lipped above the middle; corolla* glabrous, *yellow:* tube clavate, twice to thrice as long as the calyx; anther-cells oval-oblong; "seeds oblong-linear."—Bignonia, *Mey. Esseq.!*—Leaflets 2½″–2″, calyx 8‴–9‴, corolla 2″–2½″ long.—HAB. Trinidad!, *Cr.*; [Panama, Guiana!].

22. **M. corymbosa,** *Gr.* Branchlets cylindrical; leaflets 2–3, ovate or ovate-oblong, with a bluntish point, entire; peduncles axillary, compressed, dichotomously few-flowered; *calyx spathaceous*–1-*lipped beyond the middle,* recurved, tubular at the base; *corolla* glabrous, *yellowish-rosy:* tube campanulate-clavate, twice to thrice as long as the calyx; anther-cells oblong-linear; capsule woody, oblong-linear: valves flat, rough, subecarinate; seeds oblong: wings as broad as the middle part, pellucid above.—*Vent. Choix, t.* 40.—Spathodea, *Vent.*—Leaflets 6″–4″, calyx 10‴–14‴, corolla 2½″–3″, capsule 4″–5″ long, the latter about 1″ broad; seeds (the wings included) about 2″ broad, 8‴ long.—HAB. Trinidad!, *Sch.*, *Cr.*; [Panama! to equat. Brazil!].

8. ARABIDEA, *DC.*

Character of *Bignonia,* but stigma simple.—Leaflets 2–3 (–1), *usually hoary by down beneath;* panicles *terminal and axillary, many-flowered:* flowers *purple, more equal and smaller than in* Bignonia; calyx *closed in the bud.*

23. **A. Sieberi,** *DC.* Branchlets cylindrical, puberulous; *leaflets* 2 (–1) *ovate-roundish,* apiculate, puberulous above, *hoary-tomentose* and reticulated-veiny *beneath;* terminal panicle spreading, hoary-puberulous: ultimate pedicels fascicled, shorter than the calyx; calyx truncate or obsoletely 5-denticulate; corolla clavate-campanulate, puberulous.—A large climber with deciduous leaves (*Cr.*); leaflets 5″–3″, panicle often 1′, calyx 2‴, corolla 6‴–8‴ long; anther-cells linear, arcuate.—HAB. Trinidad!, *Cr.*, at Piarco.

9. PITHECOCTENIUM, *Mart.*

Character of *Bignonia,* but capsule woody, valves convex, echinate with tubercles, and seeds 3-serial.—Shrubby climbers; leaflets 2, *with a tendril, or* 3, *often with minute scales beneath;* flowers *in terminal racemes, usually tomentose.*

24. **P. Aubletii,** *Splitg.* Branchlets angular, glabrate; leaflets 2–3, subcordate-roundish or ovate, apiculate, glabrous above, glabrate beneath, with the distant scales persistent; racemes simple; calyx closed in the bud, loose, broadly campanulate, truncate, with 5 minute teeth below or at the margin; corolla tomentose: tube incurved, clavate campanulate; *capsule oblong,* echinate with stout, bluntish tubercles; seeds oblong: wings much broader than the middle part.—*Aubl. t.* 263, 264.—Bignonia echinata, *Aubl.*, *Sw.* (*non Jacq.*).—A high climber; flowers pale-rosy (*Sw.*), straw-coloured (*Wils.*); leaflets 5″–3″, calyx 4‴, corolla 1½″ long; anthers subexserted: cells oblong, slightly incurved; capsule 10″–8″ long, 1½″–2″ broad; seeds 3″ broad, 10‴–12‴ long.—HAB. Jamaica!, *Bancr.*, *March*, *Wils.*; [Cuba!, Mexico!, Venezuela!, Guiana].

10. AMPHILOPHIUM, *Kth.*

Calyx shortly-campanulate: limb double, exterior undulate-repand, slightly 5-lobed, spreading, interior closed in the bud, at length lacerate. *Corolla* campanulate: limb

2-lipped. *Stamens* didynamous: anther-cells diverging-pendulous. *Ovary* 2-celled. *Stigma* 2-lamellate. *Capsule* "elliptical, pointed at both ends: seeds imbricate, winged at both sides." —Shrubby climbers; leaves *opposite, 2–3-foliolate; flowers in terminal racemes;* peduncles *often 2–3-fid.*

25. **A. paniculatum,** *Kth.* Scaly with minute points; rusty *down* on the angles of the branchlets and petioles, and on the leaflet-ribs beneath, *stellate none;* leaflets 2, ovate, pointleted; corolla "whitish-blue."—*Jacq. Amer. Pict. t.* 175.—Bignonia, *Jacq.*—HAB. Dominica!, *Imr.;* [Guadeloupe!, Mexico to Peru!].

11. ADENOCALYMNA, *Mart.*

Character of *Bignonia,* but capsule cylindrical, woody, and seeds wingless.—Shrubby climbers; leaves 2–3-*foliolate;* calyx *usually glandular below the margin.*

The fruit of the West Indian species is unknown to me, but perhaps the woody, cylindrical capsule, described from a Jamaica specimen in the British Museum by Miers (*Ann. Nat. Hist.* iii. 7. p. 167) may belong to it; for though he referred that fruit to *Tanæcium,* it disagrees with Sloane's description of the latter genus.

26. **A. alliacea,** *Mrs.* Glabrous; leaflets 2, large, elliptical; corymbs axillary, few-flowered, exceeded by the leaves; calyx truncate or minutely 5-denticulate: glands obsolete; corolla white: narrow part of the tube much longer than the calyx.—Bignonia, *Lam., Sw.* —Leaflets 8″–4″, calyx 3‴, corolla 2″–3″ long.—HAB. West Indies (*Sw.*), probably Jamaica; [Haiti!; Guiana!].

12. TANÆCIUM, *Sw.*

Calyx campanulate, closed in the bud. *Corolla* infundibular: tube elongated, filiform-clavate. *Stamens* didynamous: anther-cells diverging. *Ovary* 2-celled, *Stigma* 2-lamellate. "*Fruit* indehiscent, pulpy; seeds wingless."—Shrubby climbers; leaves 2–3-*foliolate;* flowers *corymbose:* corolla *wholly or on the lobes powdery-puberulous.*

The character of the fruit is taken from Sloane and Swartz: from Miers's recent observations (*l. c.* iii. 8. p. 116) it would appear, that the fruit is a capsule, analogous to that of *Adenocalymna,* a statement not compatible with the descriptions of the authors quoted below.

27. **T. Jaroba,** *Sw.* Leaflets membranaceous-chartaceous, ovate or elliptical, with a bluntish point, glabrous; corymbs axillary, few-flowered; calyx tubular-campanulate, subtruncate; *corolla* white, wholly puberulous: *lobes ovate, blunt,* undulate; 2 anthers exserted; *style as long as the tube.—Sw. Fl. t.* 20. *f.* 1: the flower.—T. albiflorum, *DC.* —Pith of the branches cylindrical; leaflets 5″–3″, calyx 5‴–8‴, corolla 6″–8″ long; "berry exactly like a calabash, only smaller" (*Sl.*), "oblong, 1′ long" (*Sw.*).—HAB. Jamaica!, *Dist., March, Wullschl.;* [Guiana!, Brazil!].

28. **T. crucigerum,** *Seem.!* Leaflets leathery, oval, glabrous; racemes few-flowered, axillary and terminal; calyx tubular-campanulate, subtruncate; corolla wholly puberulous: *lobes deltoid, pointed,* undulate; 2 anthers exserted; *style as long as the tube.—Plum. Ed. Burm. t.* 58.—Bignonia *L.* Pith of the branches cross-shaped; leaflets 3″–4″, calyx 6‴, corolla 6″–7″ long.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.*

29. **T. exsertum,** *Gr.* (*n. sp.*). Leaflets membranaceous, ovate or oval, blunt, glabrous; corymbs many-flowered; calyx tubular-campanulate, 5-mucronulate-truncate; *corolla* wholly puberulous: *lobes ovate-oblong, bluntish,* undulate; 2 anthers shortly exserted; *style long-exserted.*—Corolla half as long as in the two preceding species. Leaves 4″–3″, calyx 6‴, corolla 4″–3″, style 5″–4″ long.—HAB. Jamaica!, *March.*

CXV. ACANTHACEÆ.

Stamens inserted into the sympetalous, usually 2-lipped corolla, didynamous or two. *Ovary* superior, mostly syncarpous, 2-celled: ovules along the axis, usually definite, ascending. *Fruit* mostly capsular, elastically loculicide: dissepiment usually 2-partite, often bearing hooked appendages (the retinacula) along the margin of each seed. *Embryo* exalbuminous.

—Leaves *opposite, exstipulate, usually entire or crenulate-repand: the pair often unequal: herbaceous parts usually lineolate (by adnate down)*; flowers *usually supported by bracteoles; seeds mostly compressed.*

This Order is mucilaginous; it affords slightly bitter or aromatic drugs (*Dianthera*). Fixed oil is extracted from the seeds of *Sesamum*: this genus, though anomalous, approaches *Acanthaceæ* by *Thunbergia.*

Tribe I. *ECHMATACANTHEÆ*, Ns.—*Dissepiment of the capsule 2-partite. Seeds supported by retinacula (except in* Elytraria).

Series 1. **Ruellideæ,** *T. Anders. MS.—Corolla-lobes sinistrorsely contorted. Filaments connected in pairs at the base.*

1. ELYTRARIA, *V.*

Calyx 5–4-partite, unequal. *Corolla* small, 2-lipped. *Fertile stamens* 2: anther-cells parallel. *Capsule* 8-seeded: segments of the dissepiment adnate to the valves: retinacula none.—Herbs; superior leaves *transformed into decussate, appressed scales*, inferior *rosulate; flowers spicate; bracts and* bracteoles *scarious.*

1. **E. tridentata,** *V.* Annual; rosulate leaves lanceolate-oblong, scales subulate-lanceolate; bracts subulate, ciliate, awned, superior often emarginate.—E. frondosa, fasciculata, *and* ramosa, *Kth.* E. apargiifolia, *Ns.*—Variable in the scaly branches all from the base or axillary, the down, the spikes simple or ternate, the bracts acuminate or awned from the emarginate top.—Hab. Trinidad!, *Lockh.*, on rocky soil; [New Mexico! to Buenos Ayres!].

2. RUELLIA, *L.*

(Dipteracanthus *and* Cryphiacanthus, *Ns.*)

Calyx 5-partite or deeply 5-fid, subequal. *Corolla* infundibular: limb subequal. *Stamens* didynamous, included: anther-cells parallel. *Capsule* 4–24(–2)-seeded: segments of the dissepiment adnate to the valves, often at length reduced above the seeds.—Herbs *or* shrubs; flowers *axillary, racemose, or in axillary cymes.*

Sect. 1. Gymnacanthus, *Oerst. Calyx deeply 5-fid. Capsule not compressed, 4–8-seeded above the solid base: retinacula denticulate at the summit.* Flowers axillary, sessile, ebracteolate.

2. **R. geminiflora,** *Kth.* Herbaceous or suffrutescent, hairy or glabrescent; *leaves* lanceolate, lanceolate-oblong, or ovate, *subsessile;* flowers 2–1 in the axil; calyx-segments linear-acuminate; corolla-tube enlarged from the middle; capsule ovoid, pubescent, 4-seeded above the base.—Dipteracanthus, *Ns.!*—Usually 1′–2′ high; calyx 4‴–5‴, purple corolla 1″–1½″ long.

[*α.* Down spreading; leaves ovate-oblong or oblong, 1″–1½″ long.]

β. angustifolia. Down spreading; leaves lanceolate, 1½″–2½″ long.—D. geminiflorus, *var.* angustifolius, *Ns.!*

γ. canescens. Down pubescent, short; leaves oblong-lanceolate, 1″ long.—Dipteracanthus canescens, *Ns.!*

Hab. Jamaica!, *Macf., Pd., Wils., March,* in savannahs (γ); Trinidad!, *Lockh., Cr.* (β); [Cuba! and Mexico! to Peru! and Brazil!].

Sect. 2. Aphragmia, *Ns.—Calyx deeply 5-partite. Capsule subcompressed,* 16–4(–2)-*seeded: retinacula subulate.*—Cymes spreading, axillary: 2 bracts below the lateral flowers.

3. **R. paniculata,** *L.* Shrubby, glandular; *leaves* ovate-lanceolate, *cuneate at the petioled base; cymes in a divaricate panicle;* calyx-segments linear-filiform: bracts lanceolate; corolla-tube enlarged above the middle; capsule oblong-linear, laterally subcompressed, 8–12-seeded above the base: seeds smooth.—*Sl. t.* 100. *f.* 2.—Dipteracanthus, *Ns.!*—2′–3′ high, trailing; calyx 4‴, blue corolla 1″ long.—Hab. Jamaica!, *Macf., March,* in dry hedges of the southern hills; [Mexico to Venezuela].

Sect. 3. CRYPHIACANTHUS, *Ns.*—*Calyx* 5-*partite. Capsule subterete*, 6–24-*seeded from near the base: retinacula bluntish at the summit.*—Cymes terminal and axillary: 2 bracts below the lateral flowers.

4. **R. tuberosa,** *L.* Herbaceous, glabrescent, glandular above; *leaves elliptical, bluntish, cuneate at the petioled base; cymes dichotomous,* often in a spreading panicle; calyx-segments linear-filiform, much longer than the linear bracts; *corolla-tube enlarged below the middle:* narrow part exceeded by the calyx; capsule lanceolate-oblong, 10–12-seeded, pubescent.—*Sl. t.* 95. *f.* 1: the fruit and a leaf. *Desc. Fl.* 2. *t.* 113.—R. clandestina, *L.* Cryphiacanthus barbadensis, *Ns.!*—1′-2′ high; calyx 5‴–8‴, blue corolla $1\frac{1}{4}$″–2″, capsule 6‴–12‴ long.—HAB. Jamaica!, all coll., along road-sides; Antigua!, *Wullschl.*, Dominica!, *Imr.*, Barbadoes; Trinidad!, *Sieb. Tr.* 91; [Texas!, California!; Cuba! and Mexico! to Guiana! and Peru].

5. **R. acuminata,** *Gr.* (*n. sp.*). Herbaceous, glabrescent; *leaves oblong-lanceolate, acuminate, tapering into the petiole,* subentire; *cymes few-flowered:* flowers shortly pedicellate, several often one-sided; calyx pilose: segments linear-acuminate, much longer than the lanceolate bracts; *corolla-tube enlarged much above the middle:* cylindrical part twice to thrice as long as the calyx; capsule spathulate-lanceolate, pointed, 8–6-seeded, puberulous, included in the calyx.—Allied to *Cryph. macrosiphon,* Ns. Stem 1′ high, ascending, leafy; leaves 3″–4″ long, about 1″ broad, lineolate, glabrous, veiny, nearly as long as the axillary cymes; bracts 2‴, calyx 6‴–8‴, narrow part of the corolla $1\frac{1}{2}$″, campanulate part 6‴–8‴, roundish lobes 8‴, capsule 6‴ long; seeds smooth, flat-compressed, round, puberulous: margin thickened.—HAB. Jamaica!, *March,* in the mountains.

3. STEMONACANTHUS, *Ns.*

(Arrhostoxylum, *Mart.*)

Calyx 5-fid or 5-partite, equal. *Corolla-tube* slightly curved, clavate: lobes spreading, subequal. *Stamens* didynamous, exserted: anther-cells parallel, often produced beyond the connective. *Capsule* of *Ruellia.*—Shrubs *or* herbs; cymes *paniculate or contracted.*

6. **S. macrophyllus,** *Ns.!* Shrubby; leaves ovate, pointleted, contracted into the long petiole, glabrescent; *cymes loose,* long-peduncled: pedicels 2-bracteolate near the summit; *calyx* 5-*fid* to the middle: lobes lanceolate, acuminate; corolla crimson; anthers sagittate-incumbent; *capsule* 12–20-*seeded* above the middle, spathulate, contracted into the solid claw below the seeds: retinacula subulate.—*Vahl, Symb.* 2. *t.* 39. *Bot. Reg.* 1846, *t.* 7. *Bot. Mag. t.* 4448.—Ruellia, *V.* S. Humboldtianus, *Ns.*—Leaves 6″–4″, calyx 4‴–5‴, corolla $1\frac{1}{4}$″–2″, capsule 8‴ long.—HAB. Jamaica!, *Waters, March;* [Cuba and Mexico to Venezuela! and Guiana].

7. **S. fulgidus,** *Gr.* Shrubby; leaves ovate, pointed or shortly acuminate, contracted into the long petiole, glabrous; *cymes contracted,* 5-flowered, long-peduncled: flowers sessile, supported by bracts; *calyx* 5-*fid* beyond the middle: lobes lanceolate-acuminate; corolla crimson; anther-cells produced beyond the connective, bluntish at the base; *capsule* 12–16-*seeded,* spathulate: solid claw half as long as the cells: retinacula 2–3-denticulate at the summit.—Arrhostoxylum, *Mart., Ns.!*—Proportions of the preceding; flower-heads supported by a pair of leaves.—HAB. S. Vincent!, *Guild.;* [Venezuela!, New Granada].

8. **S. coccineus,** *Gr.* Shrubby; leaves ovate-lanceolate, bluntish, petioled; *cymes contracted,* 3-flowered: *peduncle exceeded by the leaf:* flowers sessile, supported by bracts; *calyx deeply* 5-*fid:* lobes lanceolate-linear; corolla crimson; anther-cells produced beyond the connective, pointed at the base; *capsule* 8-*seeded* above the middle, spathulate, contracted into the solid base below the seeds.—*Plum. Ed. Burm. t.* 43. *f.* 1. *Desc. Fl.* 7. *t.* 476.—Leaves 2″–1″, calyx 3‴, corolla 1″–$1\frac{1}{2}$″, capsule 6‴ long.—HAB. Dominica!, *Imr.;* [Haiti to S. Croix].

4. BLECHUM, *P. Br.*

Calyx 5-partite, equal, 2-bracteolate. *Corolla* infundibular, slightly curved, nearly regular. *Stamens* didynamous, included: anther-cells parallel. *Capsule* ovoid, 8-seeded from

near the base: segments of the dissepiment seceding from the valves.—Herbs; leaves *lineolate, petioled; flower-fascicles spicate, supported by large, foliaceous, decussate bracts.*

9. **B. Brownei,** *Juss.* Annual; *leaves ovate,* pointed; spikes tetrastichous-oblong: *bracts* 3–2-flowered, roundish-ovate, ciliate, scabrous, *including or shortly exceeded by the whitish-blue flowers.*—*Sl. t.* 109. *f.* 1.—Ruellia Blechum, *L.* Justicia martinicensis, *Sieb. Mart.* 253! B. trinitense, *Ns.!*: the form with exserted flowers.—Variable in the strigose down, the size of the leaves and of the corolla. Bracts 8'''–5''', corolla 6'''–8''' long.—HAB. Jamaica!, *Macf., Al., March,* in dry soil; Antigua!, *Wullschl.;* Trinidad!, *Lockh., Sch.;* [Cuba! and Mexico to Ecuador; Philippine Islands!].

10. **B. laxiflorum,** *Juss.* Suffrutescent, glabrescent: *leaves ovate-lanceolate* or oblong-lanceolate, *acuminate;* spikes short: *bracts* 2–1-flowered, roundish-ovate, naked or ciliate at the margin, *half as long as the blue flowers.*—Ruellia blechioides, *Sw.* Dipteracanthus jamaicensis, *Ns.!*—1'–2' high; leaves 5''–2'', bracts 8'''–5''', corolla 1'' long.—HAB. Jamaica!, all coll., in moist woods, S. Anns, Manchester, Hanover.

11. **B. angustifolium,** *R. Br.* Suffrutescent, glabrous; *leaves lanceolate-linear, acuminate;* spikes short: *bracts* 2–1-flowered, ovate, long-ciliate and with scattered hairs beneath. *half as long as the blue flowers.*—Ruellia, *Sw.!*: his specimen is in fruit.—Leaves 3''–1½'', bracts 4''' long, corolla 8'''–10''' long.—HAB. Caribbean Islands!, *Sw.;* [Panama!].

5. BRAVAISIA, *DC.*

(Onychacanthus, *Ns.*)

Calyx 5-partite, equal, 2-bracteolate: segments broadly rounded, foliaceous. *Corolla* campanulate, 5-fid: limb subequal. *Stamens* didynamous, hairy, included: anther-cells parallel, mucronate at the base. *Capsule* spathulate-oblong, subsessile, 4–8-seeded: segments of the dissepiment adnate to the valves.—Trees; leaves *large, lineolate above, petioled;* racemiform *or* "spiciform" cymes *axillary or in a terminal, trichotomous panicle.*

12. **B. floribunda,** *DC.* Branches pubescent above; leaves elliptical, cuneate at the base, glabrescent; cymes racemiform, paniculate; bracteoles small, ovate-roundish; calyx-segments oval, ciliate, one-fourth as long as the white corolla.—Onychacanthus Cumingii, *Ns.*—Leaves 4''–6'', corolla 10''', capsule 6''' long; retinacula subulate-linear, truncate: seeds smooth.—HAB. Trinidad!, *Cr.;* [Mexico and Venezuela! to Peru].

Series 2. **Acanthideæ,** *T. Anders. MS.—Corolla-lobes imbricative. Filaments usually distinct.*

6. LEPIDAGATHIS, *W.*

(Teliostachya, *Ns.*)

Calyx 5(–4)-partite, unequal. *Corolla* small, 2-lipped, *Stamens* didynamous, included: anthers 2-celled. *Capsule* membranaceous, 4-seeded, sessile: segments of the dissepiment adnate to the valves.—Herbs; flowers *or* glomerules *spicate:* bracts *and* calyx *scarious, reticulated-veiny.*

13. **L. alopecuroidea,** *R. Br.* Ascending from a creeping rhizome; leaves elliptical, cuneate at the petioled base; glomerules whorled, in terminal, dense, cylindrical spikes, or distant at its base; bracts 2–3-flowered; upper calyx-segment larger, elliptical, awned, ciliate, the other lanceolate; corolla pale-blue, nearly included; one anther-cell placed higher up than the other; capsule lanceolate.—Ruellia, *V.* Teliostachya, *Ns.* Adenosma chenopodifolia, *Spreng.*—HAB. Antigua!, *Wullschl.*, Montserrat, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!. *Sieb. Tr.* 137, *Cr.;* [Portorico, French islands!; Panama! to Guiana! and Brazil].

7. GEISSOMERIA, *Lindl.*

(Salpinxanthus, *Hook.*)

Calyx 5-fid or 5-partite, slightly unequal. *Corolla* tubular: limb short, subequal, expanded. *Stamens* didynamous, subincluded: anthers 1-celled, hairy. *Capsule* "4-seeded, sessile."—Shrubs; flowers *spicate;* bracts *and* bracteoles *shorter than the calyx.*

14. **G. coccinea,** *T. Anders.* (*MS.*). Glabrous; leaves oblong or elliptical-oblong, bluntish, tapering into the short petiole; spikes axillary and terminal, nearly as long as the leaves: flowers opposite, distant, diverging; calyx 5-fid, much longer than the roundish, glabrous bracts, one-sixth as long as the corolla: lobes ovate or ovate-lanceolate, pointed, striate; corolla-lobes roundish, equal.—*Bot. Mag. t.* 4158.—Salpinxanthus, *Hook.!*—Leaves 3″–5″, calyx 2‴, corolla 1″, the latter crimson, white at the throat: tube subclavate, 3‴ diam. above.—HAB. Jamaica!, *Pd.*, *Al.*, *Wils.*, *Wullschl.*, S. Anns, Manchester.

8. APHELANDRA, *R. Br.*

Calyx 5-partite, scarious, striate, slightly unequal. *Corolla* large, 2-lipped: tube narrow. *Stamens* didynamous, exserted: anthers 1-celled, acuminate at the base. *Capsule* 4-seeded, sessile: segments of the dissepiment adnate to the valves, thickened below the seeds.—Shrubs; flowers *crimson, in imbricate, tetrastichous spikes:* bracts *and* bracteoles *rigid, usually shorter than the calyx.*

15. **A. tetragona,** *Ns.!* Leaves elliptical, pointed, cuneate at the petioled base, glabrous; rhachis woolly; *bracts* ovate, *pointed, entire, ciliate, glabrous on the back,* shortly exceeded by the calyx; corolla glabrescent: upper-lip oblong-lanceolate, 2-dentate, 2-appendiculate near the base, inferior lanceolate, acuminate, revolute.—*Jacq. Schœnbr.* 3. *t.* 320.—Justicia, *V.* J. cristata, *Jacq.*—Leaves 10″–5″, bracts 3‴–4‴, corolla 2″–3″ long.—HAB. Trinidad!, *Lockh.*; [Venezuela! to Guiana! and Ecuador].

16. **A. pectinata,** *Ns.!* Leaves elliptical-oblong, pointed, tapering at the subsessile base, hairy beneath or glabrescent; rhachis puberulous; *bracts* ovate, *cuspidate, pubescent, subserrate with a few pubescent teeth,* including the calyx; corolla pubescent: lips lanceolate, superior 2-dentate, 2-appendiculate near the base, inferior acuminate, revolute, pilose.—Justicia scabra, *V.*—8′ high; leaves 10″–6″, bracts 8‴–6‴, corolla 2″ long.—HAB. S. Vincent!, *Guild.*; [Mexico! to Guiana! and Ecuador!].

9. PACHYSTACHYS, *Ns.*

Calyx small, deeply 5-fid, subequal. *Corolla* large, 2-lipped. *Stamens* 2, subexserted: anther-cells linear, parallel, blunt at the base.—Shrubs *or* suffruticose herbs; leaf-ribs *costate;* flowers *in a terminal imbricate spike:* bracts *large, foliaceous.*

This genus as yet is scarcely distinguished from *Thyrsacanthus,* except by the inflorescence, but the capsule is still unknown.

17. **P. coccinea,** *Ns.* Shrubby, glabrous; leaves elliptical or elliptical-oblong, petioled; bracts ovate or oblong, pointed, half as long as the flowers; calyx exceeded by the bracteoles: lobes subulate, spreading; corolla-lips narrow, half as long as the clavate tube.—*Aubl. t.* 3.—Justicia, *Aubl.* P. asperula, *Ns.!* P. latior, *Ns.!*—Leaves 8″–5″, calyx 1½‴, corolla 2″ long.—HAB. Trinidad!, *Sch.*; cultivated in the Caribbean Islands!; [Cuba!; Guiana!, equat. Brazil!].

10. THYRSACANTHUS, *Ns.*

Calyx deeply 5-fid, equal. *Corolla* tubular, incurved: limb expanded, subequal or 2-lipped. *Stamens* 2, usually included: anther-cells parallel, blunt at the base. *Capsule* spathulate, clawed from the middle, 4(–2)-seeded; segments of the dissepiment adnate to the valves.—Shrubs *or* herbs; *fascicled or cymose* flowers *in a long, terminal raceme:* bracts *small.*

18. **T. nitidus,** *Ns.!* Shrubby, glabrous; leaves oblong or lanceolate-oblong, acuminate, tapering into the short petiole; raceme compound at the base: fascicles somewhat distant; calyx one-fourth to one-third as long as the corolla-tube: segments linear-acuminate, spreading; corolla slightly 2-lipped: lobes cernuous, subequal, oblong, bluntish, about as long as the tube.—*Sl. t.* 10. *f.* 2.—Justicia, *Jacq.*, *Sw.* Barleria, *Jacq.*—3′–4′ high; leaves 8″–3″, pedicels 3‴–4‴, crimson corolla 6‴, capsule 10‴ long.—HAB. Jamaica!, *Macf.*; S. Kitts, Antigua!, *Nichols.*, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*, Barbadoes!, *Lane*; [Cuba to French islands!, *Sieb. Mart.* 251].

Th. Hookerianus, Ns., (flowers regular, crimson, 1″ long) has been introduced into Jamaica.

—*Graptophyllum hortense*, Ns., (*Justicia picta*, L.), resembling *Thyrsacanthus*, but having recurved anthers, occurs likewise in our collections, but as a cultivated plant.

11. DIANTHERA, *Gronov.*, *As. Gr.* (*non Sol.*).

(Rhytiglossa, *Ns.*)

Calyx 5–4-partite: segments equal, or the superior smaller. *Corolla* 2-lipped. *Stamens* 2: anther-cells unequal, blunt at the base. *Capsule* clawed, 4(–2)-seeded: segments of the dissepiment adnate to the valves.—Herbs *or* shrubs; flowers *sessile or shortly pedicellate, in spikes, panicles, or axillary.*

Sect. 1. CHILOGLOSSA, *Oerst.*—*Corolla-tube elongated: lips approximate, upper lip subentire or emarginate, the inferior 3-crenate. Anther-cells separated by the broad, constricted connective.*—Erect herbs; raceme terminal, compound, with racemiform or contracted branches: bracts small; corolla crimson.

19. **D. secunda,** *Gr.* Stem nearly glabrous, constricted at the nodes; leaves ovate or ovate-lanceolate, acuminate; *flowers shortly pedicellate;* calyx-segments 5, lanceolate, pointed, one-sixth as long as the corolla: stamens equalling the corolla; distant anther-cells nearly parallel, one smaller.—*Bot. Mag. t.* 2060.—Justicia, *V.* Rhytiglossa, *Ns. !*

α. Panicle spreading, usually one-sided; corolla $1\frac{1}{2}''$–$1''$ long.

β. geniculata. Panicle short, somewhat contracted; corolla $1''$ long.—*Bot. Mag. t.* 2487.—Justicia, *Sims.* Rhytiglossa, *Ns.*

γ. lucida. "Panicle spiciform-contracted; corolla $2''$ long."—*Bot. Mag. t.* 1014.—Justicia, *V.* Rhytiglossa, *Ns.*

HAB. Jamaica !, *Wullschl.* (*β*); Antigua !, *Wullschl.* (*α*), S. Vincent !, *Guild.;* Trinidad !, *Sieb. Tr.* 139, *Sch.*, *Lockh.;* [French islands !, *Sieb. Mart.* 382; Panama ! to Peru ! and Guiana !].

Sect. 2. RHYTIGLOSSA, *Ns.* emend.—*Inferior corolla-lip spreading, broadly 3-lobed.*—Flowers spicate or axillary: bracts small.

20. **D. androsæmifolia,** *Gr.* Stem slender, herbaceous or suffrutescent, glabrous with puberulous lines; leaves ovate or ovate-lanceolate, bluntish; *flowers distant in simple,* terminal and axillary *spikes;* calyx-segments 4, linear-acuminate, one-third as long as the corolla; corolla 2-lipped almost to the middle: tube narrow: upper lip oblong-linear, entire, a little exceeding the stamens; *anther-cells* ovoid, *obliquely diverging,* one placed higher up.—Justicia, *Sieb. Mart.* 380 ! Rhytiglossa, *Ns. !*—Leaves $2''$–$1\frac{1}{2}''$, corolla $1''$ long.—HAB. Dominica !, *Imr.;* [Martinique !].

21. **D. pectoralis,** *Murr.* Stem slender, herbaceous or suffrutescent, glabrous, often with a line of hairs, puberulous at the summit; leaves lanceolate-acuminate or oblong-lanceolate; *flowers distant, in branched, elongated spikes,* most one-sided; calyx-segments 5, small, linear-acuminate, one-fourth to one-sixth as long as the corolla; corolla 2-lipped to one-fourth: upper lip ovate, entire, exceeding the stamens; *anther-cells* ovoid, oblique, *separated by the constricted connective,* one smaller.—*Jacq. Amer. Pict. t.* 4. *Tuss. Fl.* 3. *t.* 2.—Justicia, *Jacq.* Rhytiglossa, *Ns. !*—$1'$–$3'$ high; leaves $4''$–$1''$, corolla $4'''$–$5'''$ long, the latter rosy with a variegated throat, or pale-blue.—HAB. Jamaica !, *March;* Antigua !, *Wullschl.*, S. Lucia, S. Vincent !, *Guild.;* Trinidad !, *Sieb. Tr.* 136, *Sch.*, *Lockh.*, in dry pastures; [Haiti to French islands !; Mexico ! to Brazil !].

22. **D. reptans,** *Gr.* Glabrescent; *stem creeping,* delicate; leaves deltoid-ovate, pointed or bluntish; *flowers* few, *distant in a simple, filiform spike,* one-sided; calyx-segments 5, linear-acuminate, half as long as the corolla; corolla 2-lipped to one-fourth: upper lip "emarginate;" *anther-cells* ovoid, *obliquely diverging,* one placed higher up.—Justicia, *Sw. !* Rhytiglossa, *Ns.*—$2''$–$6''$ long; leaves $6'''$–$3'''$, corolla $3'''$–$4'''$ long, the latter white, red-streaked at the throat.—HAB. Jamaica (*Ns.*); [Haiti !, on moist rocks].

23. **D. sessilis,** *Gr.* Suffruticose; stem erect, glabrescent with lines of hairs; leaves ovate, pointed, shortly petioled; *flowers single in the axils, sessile;* calyx-segments 4, linear-acuminate, one-third as long as the corolla; corolla 2-lipped to one-third; "anther-

cells separated by the dilated connective, one smaller;" seeds tubercled.—*Jacq. Amer. Pict. t.* 3.—Justicia, *Jacq.* Rhytiglossa, *Ns.* Siphonoglossa, *Oerst.*—1′–2′ high; leaves 1½″–1″, rosy corolla 8‴ long; capsule elliptical-lanceolate: claw as long.—HAB. Antigua!, *Wullschl.*; [Haiti to S. Eustache, among shrubs].

24. **D. comata,** *L.* Annual, rooting at the base, glabrescent, usually glandular at the summit; leaves ovate or lanceolate, cuneate or tapering at the subsessile or shortly petioled base; *flowers distant in filiform, whorled-umbellate spikes;* calyx-segments 5, linear-acuminate, about half as long as the corolla; corolla 2-lipped to one-third; anther-cells ovoid, contiguous: superior oblique, inferior vertical; seeds muricate.—*Sl. t.* 103. *f.* 2.—Justicia, *Sw.* J. humifusa, *Sw.* Leptostachya comata, Martiana, *and* parviflora, *Ns.*—HAB. Jamaica!, all coll., in swamps and wet pastures; Trinidad!, *Sch., Lockh.*; [Cuba! and Mexico! to Peru! and Brazil!].

12. JUSTICIA, *L.*

(Adhatoda *and* Gendarussa, *Ns.*)

Calyx 5-partite: segments equal (or the superior smaller). *Corolla* 2-lipped: inferior lip spreading. *Stamens* 2: one anther-cell placed higher up than the other, inferior mucronate or callous at the base. *Capsule* of *Dianthera.*—Shrubs *or* herbs; flowers *spicate or axillary;* bracts *foliaceous.*

25. **J. eustachiana,** *Jacq.* Shrubby, glabrescent, constricted at the nodes; leaves lanceolate or oblong, acuminate with a bluntish point; spikes few-flowered or interrupted below, peduncled; *bracts spathulate-linear, exceeded by the calyx;* calyx-segments lanceolate, acuminate, one-fourth as long as the corolla; corolla pale-purple: upper-lip emarginate, lobes of the inferior oblong, blunt; anther-cells oblong, parallel.—*Jacq. Amer. Pict. t.* 5.—Adhatoda, *Ns.!*—3′ high; leaves 6″–2″, corolla 1½″ long.—HAB. Antigua!, *Nichols.*, *Wullschl.*, in arid soil, Montserrat; [S. Barthelemy!, S. Eustache, Guadeloupe!].

26. **J. carthagenensis,** *Jacq.* Suffruticose, glabrescent, constricted at the nodes; leaves ovate, pointed or elliptical-lanceolate; spikes short, imbricate, sessile or shortly peduncled; *bracts spathulate, exceeding the calyx;* calyx-segments lanceolate, acuminate, one-third to one-fourth as long as the corolla; corolla violet: upper lip emarginate, lobes of the inferior bluntly ovate; anther-cells oblong, parallel.—*Jacq. Amer. Pict. t.* 7: a narrow-leaved form, not occurring in our collections.—Adhatoda, *Ns.!* Justicia retusa, *V.* (Dicliptera, *Juss.*; Amphiscopia, *Ns.*).—3′–6′ high; leaves 6″–1″, corolla 1½″ long.—HAB. S. Kitts!, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; [S. Croix; Mexico! to Venezuela! and Peru!].

27. **J. sphærosperma,** *V.* Suffruticose, glabrous, constricted at the nodes; leaves ovate or ovate-oblong; spikes terminal, imbricate, subsessile, often 3-partite; *bracts lanceolate-linear, acuminate, exceeding the calyx;* calyx-segments lanceolate, acuminate, one-third as long as the corolla; corolla red: upper lip 2-dentate, lobes of the inferior oblong-lanceolate, bluntish; anther-cells oblong-linear, alternate, the superior erect, the inferior hanging, with a bluntish spur.—Adhatoda, *Ns.!*—Leaves 6″–2″, spikes 2″, corolla 1½″ long; seeds "compressed-globose."—HAB. S. Vincent!, *Guild.*

J. Adhatoda, L. (*J. caracasana*, Sieb. Mart. 381) and *J. Gendarussa,* L., occur in the Caribbean collections as cultivated plants. *J. racemulosa,* Wickstr. (*Tetramerium,* Ns), said to grow in Jamaica, is perhaps a *Dianthera*, but unknown to me.

13. BELOPERONE, *Ns.*

Character of *Justicia*, but both anther-cells callous or mucronate at the base, and inferior corolla-lip suberect.

28. **B. nemorosa,** *Ns.* Herbaceous, suffrutescent, pubescent or glabrescent; leaves ovate or ovate-lanceolate, acuminate, bluntish at the petiole; spikes terminal, short, subsessile: floral leaves gradually passing into the ovate-oblong bracts; *calyx-segments* lanceolate, *exceeded by the bracts,* one-third as long as the corolla; *corolla* purple, *straightish-tubular,* 2-lipped to one-third: lips of equal length, the superior emarginate, the inferior shortly 3-lobed: lobes oblong, blunt; anther-cells oblong, bluntly corniculate at the base:

one placed obliquely above the other.—Justicia, *Sw.*—Leaves 5″–2½″, corolla 12‴–15‴ long. —HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, *Pd.*, *March*, in moist woods, the glabrescent form on calcareous rocks.

14*. ERANTHEMUM, *L.*

Calyx 5-fid, equal. *Corolla* salver-shaped: limb subequal. *Fertile stamens* 2, exserted: anther-cells parallel, blunt at the base. *Capsule* of *Dianthera*.—Flowers *spicate, 2-bracteolate.*

29*. **E. nervosum,** *R. Br.* Shrubby, glabrescent; branches 4-gonal; leaves ovate or ovate-oblong, pointed at both ends; spikes imbricate; *bracts large, ovate-cuspidate, reticulated-veiny*, at length scarious between the network; corolla blue: tube narrowly cylindrical, longer than the bracts and the obovate lobes.—Justicia, *V.*—Spikes 2″–4″, bracts 8‴, corolla-tube 1″ long.—HAB. Naturalized in S. Kitts!, Trinidad!, *Sieb. Tr.* 230; [introduced from the East Indies].

15. ANTHACANTHUS, *Ns.*

Character of *Eranthemum*, but calyx 5-partite, ebracteolate, and corolla-limb 2-lipped, the upper lobes being less expanded.—Shrubs; spines *axillary, (rarely wanting,) sometimes growing out into spinescent branchlets;* pedicels *axillary or lateral, solitary or fascicled, bracteolate at the base;* corolla *5-lobed almost to the middle;* capsule *contracted into the solid claw at the middle, (except in a new Cuba species).*

30. **A. spinosus,** *Ns.* Glabrescent; spines stout, nearly horizontal or slightly recurved, often exceeding the minute, spathulate or elliptical, leathery leaves; *pedicels fascicled, as long as the calyx; corolla blue: tube twice as long as the calyx:* lobes oval; capsule pointed.—*Jacq. Amer. Pict. t.* 2.—Justicia, *L.* A. emarginatus, *Ns. ex descr.*—4′–5′ high, virgate, very spiny, variable in the leaves and in the size of the spines; leaves 2‴–6‴, calyx 2‴, corolla 6‴–8‴, capsule 8‴ long.—HAB. Bahamas!, *Swains.*; Antigua!, *Nichols.*, on maritime, calcareous rocks; [Cuba! to Martinique].

31. **A. armatus,** *Ns.* Branchlets puberulous, often unarmed above; spines slender, spreading, exceeded by the cuneate-oblong or elliptical, retuse, chartaceous leaves; *pedicels* filiform, solitary or fascicled, *as long as the flower* (or somewhat shorter); *corolla red: tube* 3–4 *times as long as the small calyx:* lobes oblong; capsule pointed.—Justicia, *Sw.!*; a large-leaved form. A. acicularis, *Ns.! (exclus. syn. Sw.)*: the common, small-leaved form. —3′–12′ high; spines 4‴–6‴, leaves 6‴–8‴, rarely 1″–1½″, pedicels 8‴–5‴, calyx 1‴ long; corolla crimson or pale-purple, 6‴–8‴, capsule 6‴–4‴ long.—HAB. Jamaica!, *Al.*, *Wils.*, *March*, *Wullschl.*, in rocky mountains.

32. **A. jamaicensis,** *Gr.* Branchlets puberulous; spines setaceous, spreading, exceeded by the ovate-deltoid or retuse-oval, mucronulate submembranaceous leaves; *pedicels solitary, as long as the calyx; corolla white: tube scarcely twice as long as the calyx:* lobes oval; *capsule mucronulate-bluntish.*—Justicia acicularis, *Sw.*—Diffuse, 1′ high; spikes 3‴, leaves 10‴–5‴, pedicels 1‴–2‴, calyx 1½‴, corolla 5‴, capsule 6‴ long.—HAB. Jamaica!, *Wils.*, common on calcareous rocks of the southern districts.

33. **A. microphyllus,** *Ns.* Branchlets rigid, hispidulous-pubescent; spines subuliform, spreading, exceeded by or exceeding the minute, spathulate, chartaceous leaves; *pedicels* solitary (or fascicled), *twice as long as the calyx* (or shorter); *corolla white: tube* 4 *times as long as the small calyx:* lobes oval; capsule pointed.—Justicia, *Lam.* A. lycioides, *Ns.*: the small-leaved form. A. cuneatus, *Ns.!*: a pubescent form, with longer spines, passing into the common one by *Eranthemum spinosum*, Berter.!—8′–12′ high, or lower; leaves 5‴–1½‴, spines 4‴–1½‴, pedicels 2‴–1½‴, calyx 1‴, corolla 6‴, capsule 6‴–10‴ long.—HAB. Jamaica!, *Macf.*, *Berter.*, *Wils.*; Antigua!, *Wullschl.*; [Haiti! to French islands!, on arid hills].

16. DICLIPTERA, *Juss.*

Calyx 5-partite, equal. *Corolla* 2-lipped. *Fertile stamens* 2: anther-cells blunt at the base, one placed higher up than the other. *Capsule* 4-seeded: segments of the dissepiment elastically separating from the valves.—Herbs (or shrubs); glomerules *few(–1)-flowered,*

paniculate, umbellate, or axillary: flowers *bracteolate, apparently inverted with respect to the primary axis.*

34. **D. martinicensis,** *Juss.* Glabrescent; leaves ovate or ovate-oblong, pointed; peduncles 3–5-nate, axillary or in interrupted racemes: *glomerules supported by 2 large, ovate, cuspidate bracts:* one bract somewhat larger than the other; corolla rosy: tube narrowly cylindrical, lips oblong-linear, subentire, one straight, the other revolute; capsule shortly clawed.—*Jacq. Amer. Pict. t.* 6.—Justicia, *Jacq.*—2′ high; leaves 2″–4″, larger bracts 8‴–10‴, corolla 1½″, capsule 4‴ long.—Hab. Trinidad!, *Sieb. Tr.* 173; [Martinique!, in shady places].

35. **D. assurgens,** *Juss.* Leaves ovate or ovate-oblong, pointed; *glomerules* distant in compound spikes, *supported by 2 lanceolate-linear or spathulate-linear bracts,* superior solitary, inferior ternate; corolla scarlet, much longer than the bracts: tube incurved, clavate, lips bluntly lanceolate, subentire, one spreading; capsule shortly clawed.—*Br. Jam. t.* 2. *f.* 1.—Justicia, *L.* D. Vahliana, *Ns.!* (J. sexangularis, *L. sec. Sw.*): the form with most bracts spathulate. D. portoricensis *and* mollis, *Ns.:* pubescent forms.—3′–4′ high, 6-angular above, with spreading branches; leaves 4″–2″, bracts 4‴–2‴, corolla 1″–1½″, capsule 3‴ long.—Hab. Bahamas!, *Swains.;* Jamaica!, all coll., along the coast: Trinidad!, *Sch.;* [Cuba! and Mexico! to Venezuela].

17*. ANDROGRAPHIS, *Wall.*

Calyx 5-partite. *Corolla* 2 lipped. *Stamens* 2: anther-cells parallel, unequal, bearded at the base. *Capsule* sessile, 16–4-seeded: segments of the dissepiment adnate to the valves: seeds subglobose: retinacula deciduous.—Herbs; flowers *purple, in axillary or compound racemes.*

36*. **A. paniculata,** *Ns.* Annual, glabrous, glandular at the summit; stem 4-gonal, trichotomous; leaves lanceolate or oblong-lanceolate; racemes in a spreading panicle; corolla-tube clavate; capsule oblong-linear, 12–16-seeded.—*Wight, Ic.* 2. *t.* 518.—1′–2′ high; corolla 6‴, capsule 8‴ long.—Hab. Naturalized in Jamaica!, *Al., Pd., March,* in shady places, S.-Vincent!, *Guild.;* [East Indies!].

Tribe II. *THUNBERGIEÆ.—Placenta cohering in the axis: retinacula none.*

18*. THUNBERGIA, *L. fil.*

Calyx cyathiform, 5–many-lobed or truncate, enclosed by 2 large bractlets. *Corolla* salver-shaped: limb 5-partite, subequal, imbricative. *Stamens* didynamous, included: anther-cells parallel, ciliate. *Capsule* 4–2-seeded, contracted into a large beak: dissepiment separating from the introflexed valves: seeds subglobose, perforated at the base.—Pubescent climbers; flowers *axillary, peduncled or racemose.*

37*. **T. fragrans,** *Roxb.* Leaves ovate or ovate-lanceolate, pointed, subcordate or hastate at the base; calyx 5-fid; corolla pale-yellow, purple at the throat: lobes obversely deltoid, 3-crenate at the top, nearly as long as the tube; capsule globose, one-half to one-third as long as the stout, subuliform beak.—Corolla-tube 1″, capsule (the beak included) about 1″ long.—Hab. Naturalized in Jamaica!, *Al.*, Antigua!, *Wullschl.*, Trinidad!, *Sieb. Tr.* 221; [East Indies!].

19*. SESAMUM, *L.*

Calyx 5-partite: upper segment smaller. *Corolla* 2-lipped. *Stamens didynamous,* included: anther-cells parallel. *Capsule* many-seeded, beaked: cells nearly 2-locellate by incomplete, spurious dissepiments, proceeding from the middle of the valves: central placenta separating from the introflexed valves: seeds angular (or compressed).—Annual herbs; leaves *bearing minute points beneath, superior often alternate;* flowers *axillary, shortly peduncled.*

38*. **S. orientale,** *L.* Erect, pubescent; leaves ovate-lanceolate, acuminate, entire or inferior coarsely toothed below; capsule ovoid-oblong, 4-furrowed, shortly beaked.—*Desc. Fl.* 4. *t.* 268.—S. indicum, *L.*—Corolla rosy-white, 1″–1½″ long.—Hab. Naturalized and cultivated in Jamaica, and Caribbean Islands, [introduced from the East Indies].

CXVI. GESNERIACEÆ.

Stamens inserted into the sympetalous, imbricative, usually irregular corolla, didynamous (or 2–5) : anthers mostly cohering. *Ovary* paracarpous : placentæ 2, bilamellate, usually many-ovulate. *Embryo* cylindrical (rarely with broad cotyledons) : albumen thin or none. —Herbs *or* shrubs, *often epiphytical;* leaves *simple, exstipulate, usually opposite (but alternate in several West Indian genera);* inflorescence *centripetal.*

TRIBE I. *GESNERIEÆ.—Embryo cylindrical, enclosed by albumen. Calyx adnate to the ovary.*

1. GESNERIA, *Mart.*

Calyx-limb 5-partite. *Corolla* campanulate or tubular : limb shortly 2-lipped. *Stigma* entire. *Capsule* half-superior, medianicide at the summit.—Leaves *opposite;* flowers *in corymbs or racemes.*

1. **G. corymbosa,** *Sw.!* Shrubby, scabrous; leaves ovate, pointed, obsoletely serrate, shortly petioled; corymbs axillary, long-peduncled : peduncles exceeding the leaves; calyx-lobes subulate, as long as their tube; corolla tubular, slightly incurved, gradually enlarged from the middle, scabrous-pubescent, nearly devoid of basilar gibbosities; hemiepigynic glands connected into a ring.—1′ high; leaves 2″, crimson corolla 8‴, ellipsoidal capsule 3‴ long.—HAB. Jamaica!, *Sw.*, on limestone rocks of the southern districts.

2. ISOLOMA, *Decs.*

Calyx-limb 5-partite. *Corolla-tube* clavate : limb short, subequal. *Stigma* 2-fid. *Ovary* half-superior.—Stoloniferous herbs; leaves *opposite;* flowers *axillary or racemose.*

Hanstein has changed the name of this genus into *Brachyloma,* on account of the priority of *Isoloma,* J. Sm., which however is a synonym or section of *Lindsæa* (Hook, sp. fil.).

2. **I. hirsutum,** *Reg.* Erect, villous; leaves ovate, pointed, coarsely serrate, long-petioled; pedicels long, axillary; calyx-lobes lanceolate-linear, much longer than their tube, nearly half as long as the straight, villous, crimson corolla.—*Kth. N. Gen.* 2. *t.* 189.—Gesnera, *Kth.*—2′–4′ high; leaves 3″–4″ (–6″), pedicels 2″, calyx 6‴, corolla 12‴ long.—HAB. Trinidad!, *Cr.,* Waterfall at Maraccas; [Venezuela].

3. ACHIMENES, *P. Br.*

Calyx-limb 5-partite. *Corolla* obliquely salver-shaped : limb subequal. *Stigma* emarginate. *Ovary* inferior.—Slender, stoloniferous herbs; leaves *opposite (or whorled), serrate;* peduncles *axillary,* 1-*flowered.*

3. **A. coccinea,** *Pers.* Pubescent; leaves ovate-oblong, pointed, cuneate at the base; peduncles much longer than the calyx : corolla crimson : tube subequal at the base.—*Br. Jam. t.* 30. *f.* 1.—Cyrilla pulchella, *Ait.*, *Sw.*—6″–12″ high; leaves 1″–2″, corolla-tube 6‴–8‴ long; epigynous disk annular.—HAB. Jamaica!, *Macf.*, *M'Nab*, *Bancr.*, *Pd.*, in moist rocks of the south-eastern hills; [Mexico! to Panama].

4. RYTIDOPHYLLUM, *Mart.*

Calyx-limb 5-fid : tube ecostate. *Corolla* obliquely campanulate, dilated below the limb. *Stamens* inserted into the middle of the corolla : anther-cells oblong. *Ovary* inferior. *Capsule* medianicide at the produced, free summit.—Scabrous shrubs *or* half-shrubs; leaves *scattered;* flowers *corymbose :* peduncles *long, opposite to a leaf.*

4. **R. grande,** *Mart. Shrubby, simply scabrous; leaves* long, lanceolate-oblong, tapering into a short petiole, obsoletely denticulate or *subentire*, pale beneath; peduncles equalling the leaves; calyx-tube obconical, as long as the deltoid lobes; corolla greenish-yellow, purple at the throat : limb oblique; stamens included; summit of the capsule bluntly conical.—Gesnera, *Sw.*—6′–15′ high : leaves 1′–1½′, calyx-lobes 1½‴, corolla 6‴ long.

—HAB. Jamaica !, *Macf.*, *M'Nab*, *Al.*, *Pd.*, *March*, along rocky roads, S. Mary's, between Bath and Port Antonio.

5. **R. tomentosum,** *Mart.* *Stem suffruticose, glandular-villous ; leaves* lanceolate or oblong-lanceolate, acuminate, *serrate*, scabrous above, villous beneath ; peduncles equalling or exceeding the leaves ; calyx-tube campanulate-obconical, as long as the bluntly mucronulate, at length deltoid lobes ; corolla greenish-yellow, variegated with purple spots (or purple), scabrous-tomentose ; stamens included ; summit of the capsule convex.—*Sl. t.* 104. *f.* 2.—Gesnera, *L.*—2′–3′ high ; leaves 8″–4″ (–1′), calyx-lobes 1‴, at length 2‴, corolla 8‴–10‴ long.—HAB. Jamaica !, all coll., on rocky river-banks, common ; [Cuba !, Haiti !].

5. PENTARHAPHIA, *Lindl.*

Calyx-limb 5-partite to the base : tube turbinate, 10(–5)-costate, *Corolla* 2-lipped : tube campanulate-infundibular or incurved-clavate. *Stamens* inserted near the base of the corolla, exserted : anther-cells ovoid-oblong, at length recurved. *Ovary* inferior. *Capsule* medianicide at the convex, free summit.—Glabrous, resinous shrubs ; leaves *scattered, petioled, rigid : veins costate ; peduncles few(–1)-flowered, axillary.*

P. craniolaria, Decs. (from Swartz's specimen) is no congener, but will prove a distinct genus, distinguished by transverse, included anthers, the habit and down of *Conradia*, and a peculiar corolla.

6. **P. longiflora,** *Lindl.* Leaves lanceolate-elliptical or lanceolate-oblong, obtusely serrulate or subentire, tapering at the entire base ; *calyx-lobes* filiform from a subulate base, *one-half or one-third as long as the incurved, clavate-cylindrical, crimson corolla ;* capsule turbinate.—*Ann. Sc. Nat.* iii. 6. *t.* 7 : P. florida, *Decs.*—Gesnera ventricosa, *Sw.* (Conradia, *Mart.*). P. Swartzii, Lindleyana, exserta (*exclus. syn. Sw.*), montana, florida, and Herminierii, *Decs.* : all distinguished by variable characters, the calyx-lobes proving of different length in the same specimen.—6′–8′ high ; leaves 3″–6″ (–8″), calyx-lobes 8‴–2‴, corolla 10‴–12‴ long.—HAB. Jamaica !, *Pd.*, *Al.*, on rocks, Manchester ; Montserrat, Dominica !, *Finl.*, *Imr.*, S. Vincent !, *Guild.* ; [Haiti !, French islands !, *Sieb. Mart.* 394].

7. **P. catalpiflora,** *Decs.* Leaves oblong, pointed, unequally serrulate, blunt at the rounded base ; *calyx-lobes* linear from a subulate base, *two-thirds to one-fourth as long as the broadly infundibular corolla-tube ; corolla yellow :* inferior lip often as long as the tube ; capsule turbinate.—Gesnera exserta, *Sw. !* (Conradia, *Mart.* ; Codonorhaphia, *Oerst.*). P. Lessertiana and parviflora, *Decs.*—6′–12′ high ; leaves 3″–5″, calyx-lobes 4‴–2‴, corolla-tube 6‴–8‴ long ; expanded corolla often 8‴ diam. at the throat.—HAB. Jamaica !, *Sw.*, *Macf.*, *Wils.*, *March*, *M'Nab*, in rocky mountains ; [Haiti !].

8. **P. calycosa,** *Decs.* Leaves elliptical-oblong, with a bluntish point, unequally serrate, bluntish at the base ; peduncles 1-flowered ; *calyx-lobes long-linear, filiform above, exceeding the broadly campanulate corolla ;* inferior corolla-lip almost as long as the tube ; capsule clavate.—*Hook. Ic. t.* 689, 690.—Conradia, *Hook.* Codonorhaphia, *Oerst.*—5′–10′ high, much branched ; leaves 4″–7″, peduncles 3″, calyx-lobes 18‴, corolla 12‴ long, the latter 8‴ diam. at the throat.—HAB. Jamaica !, *Pd.*, *Macf.*, Manchester, mountains of Port Royal.

6. VAUPELLIA, *Gr.*

Calyx-limb broadly campanulate, inflated-spreading, shortly 5-fid, herbaceous : tube clavate-cylindrical, obtusely 10-costate. *Corolla* 2-lipped : tube campanulate. *Stamens* inserted near the base of the corolla, exserted : anther-cells oblong, erect. *Ovary* inferior : style surrounded at the base by an annular disk : stigma infundibular. *Capsule* cylindrical, retuse at the summit, at length rupturing.—A glabrous half-shrub ; leaves *scattered, membranaceous, petioled ;* veins *arched-costate ;* peduncles *few-flowered, axillary.*

9. **V. calycina,** *Gr.*—Gesnera, *Sw.* Conradia, *Mart.*—6′–10′ high ; leaves lanceolate-oblong, pointed, slightly crenate above, 6″–4″ long ; calyx-limb 8‴–6‴ long and broad : lobes deltoid, pointed : tube 6‴ long ; corolla whitish : tube 6‴ long, 2‴ diam. at the base : one lobe roundish, 3‴–2‴ diam., the other smaller or reduced ; stamens twice as long as the corolla ; capsule about 10‴ long.—HAB. Jamaica !, *Macf.*, *Wils.*, in mountain-woods, at 3000′ alt., very rare, Manchioneal, near Betty's Hope, Bath.

7. CONRADIA, *Mart.*

Calyx-limb 5-partite: tube turbinate or campanulate, often 10-costate. *Corolla* 2-lipped: tube campanulate or clavate-cylindrical. *Stamens* inserted near the base of the corolla, shorter than the corolla: anther-cells ovoid-roundish. *Ovary* inferior. *Capsule* wholly inferior, opening by pores at the truncate summit.—Downy *or* glabrescent half-shrubs, *rarely* herbs *or* shrubs; leaves *scattered, often rugose:* veins *arched-costate;* corymbs *few*-1-*flowered, axillary, peduncled, or subsessile.*

Ophianthe, Hanst., I regard as a congener, as it is only distinguished by the tubular corolla: the costate calyx-tube exists in *O. libanensis,* and the difference in the growth of the epigynic glands presents a gradual passage.

* *Corolla-tube campanulate: limb large, expanded.*

10. **C. humilis,** *Mart.* Suffruticose, simple; pilose down scarce, disappearing; *leaves lanceolate* or obversely lanceolate, acuminate, serrate above, *subsessile,* membranaceous; *peduncles* few-flowered, *about as long as the leaves; calyx-tube* ovate, *slightly* 10-*keeled: lobes subulate;* corolla "yellowish," deflexed: tube broadly campanulate, thrice as long as the largest lobe: lobes entire, very unequal.—*Plum. Ed. Burm. t.* 133. *f.* 2: corolla-limb inaccurate.—Gesnera, *L., Sw., Pœpp. Cub.!*—Stem ascending, spithameous or lower, naked below, leafy above; calyx-lobes 2‴, corolla 8‴ long.—Hab. Jamaica (*Lun.*); [Cuba!, Haiti].

11. **C. mimuloides,** *Gr.* (*n. sp.*). Suffruticose, simple; down jointed; *leaves spathulate,* blunt, dentate-crenate above, *tapering into the short petiole,* membranaceous; *peduncles* 1–3-flowered, flexuose, *one-third to one-fourth as long as the leaves; calyx-tube ecostate,* at length terete, ovoid, pilose: *lobes* half as long as the corolla-tube, *elliptical, bluntish,* at length excrescent, oblong; corolla-tube broadly campanulate, about twice as long as the broad lips: lobes rounded, subequal, ciliate.—Stem ascending, 6″–4″ long, naked below, glabrescent: younger parts, petioles and midrib of leaves beneath rugose with approximate knobs or warts; leaves 5″–3″, petioles 8‴–3‴ long, the former 16‴–10‴ broad above, glabrescent, except at the margin and on the midrib beneath; peduncles filiform, about 1″, calyx-lobes during anthesis 3‴, corolla 8‴–10‴ long.—Hab. Jamaica!, *Pd., M'Nab,* S. George at Moorce's Gap.

12. **C. neglecta,** *Hook.!* Suffruticose, simple, glabrous (except furfuraceous asperities); *leaves spathulate-oblong,* bluntish, crenate above, *tapering into the short petiole,* membranaceous; *peduncles* 1-flowered, short, *not much longer than the petiole; calyx-tube ecostate,* ovate, glabrous: *lobes lanceolate-acuminate,* little shorter than the corolla-tube; corolla-tube broadly-campanulate, as long as or shorter than the broad lips: lobes orbicular, subequal, eciliate.—*Hook. Ic. t.* 874.—About 4″ high, ascending, naked below; rugosities glabrous, though "resinous;" leaves 5″–3″, peduncles 2‴–8‴, calyx-lobes 3‴–5‴, corolla about 1″ long: the expanded corolla 1″ diam.—Hab. Jamaica!, *Pd.,* on rocks, S. Anns in Pedro district, Clarendon in Cave Valley.

13. **C. clandestina,** *Gr.* (*n. sp.*). Frutescent, branched; branches and petioles rusty-villous; *leaves elliptical* or elliptical-oblong, pointleted, serrate above, *subacute at the base,* chartaceous, roughish, glabrous; *peduncles* 1-flowered, *twice as long as the petiole; calyx* pubescent: tube obtusely 5-angular, shortly turbinate: *lobes long, oblong-lanceolate, acuminate, as long as the corolla-tube;* corolla pubescent: tube broadly campanulate, thrice as long as the lips: lobes short, rounded, unequal.—Branches naked below; leaves 4″–2½″, petioles 3‴–6‴, calyx-tube 2‴–3‴, lobes 8‴, corolla 10‴ long, the latter 6‴ diam. at its throat.—Hab. Jamaica!, *Wils.*

** *Corolla-tube subcylindrical, slightly tapering below its short, infundibular, subequal limb.* (Ophianthe, *Hanst.*)

14. **C. scabra,** *Mart.* Frutescent, branched; branches and petioles scabrous-pubescent; *leaves oblong-lanceolate,* pointed, unequally serrulate, chartaceous, reticulated, scabrous by minute bristles; *peduncles* spreading, 3(–1)-flowered, *about as long as the leaves; calyx* scabrous: tube turbinate, at length 5-costate: *lobes ovate, pointed,* one-fourth to half as long as the corolla-tube; *corolla* crimson, pubescent: *tube* inflexed, *straightish,* subcylindrical, much longer than the small, roundish, subequal lobes.—Gesnera, *Sw.*—2′–4′ high;

leaves 4″–1½″, petioles 2‴–4‴, calyx-lobes 2‴–3‴, corolla 8‴ long, the latter 2‴ diam.—HAB. Jamaica!, *Pd.*, in rocky, calcareous mountains, Hanover, summit of Dolphin's Peak.

15. **C. Sloanei,** *DC.* Suffruticose, simple; down villous; *leaves spathulate-oblong,* pointed, crenate-serrate, and repand, membranaceous, rugose, scabrous, villous on the ribs beneath; *flowers fascicled in the axils:* pedicels about as long as the petiole; *calyx-tube* obtusely 10-*costate: lobes linear-acuminate, much shorter than the corolla-tube,* at length excrescent, spreading; *corolla* crimson, slightly puberulous: *tube incurved,* clavate-cylindrical, much longer than the small, roundish, oblique lobes.—*Sl. t.* 102. *f.* 1.—Gesnera acaulis, *L.*, *Sw.* C. hispida, *Benth.*!—Naked part of the stem 6″–18″ high, or reduced; leaves 6″–4″, petioles 2‴–3‴ (–6‴), calyx-lobes 3‴–4‴, (at length –8‴), corolla 1½″ long.—HAB. Jamaica!, all coll., common on calcareous rocks.

16. **C. libanensis,** *Gr.* Suffruticose, low, simple; down scabrous; *leaves spathulate-oblong,* unequally serrate, and repand, membranaceous, rugose, roughish, scabrous on the ribs beneath; *flowers fascicled in the axils:* pedicels short, at length excrescent; *calyx-tube at length* obtusely 10-*costate: lobes lanceolate, acuminate, half or one-third as long as the corolla-tube; corolla* crimson, pubescent: *tube incurved,* clavate-cylindrical, much longer than the small, roundish, subequal lobes.—*Bot. Mag. t.* 4380.—Gesnera, *Morr.* Ophianthe, *Hanst.* Rytidophyllum floribundum, *Houtt.*—Naked part of the stem often only 1″ long; rosular leaves 4″–2″, petioles 1‴–2‴, calyx-lobes 3‴–4‴, corolla 9‴–10‴ long.—HAB. Jamaica!, *Macf.*, *Lane*; [Cuba!, Haiti!].

*** *Corolla-tube narrowly campanulate, straightish: limb short, oblique; reduced stem herbaceous.* (Chorisanthera, *Don.*)

17. **C. pumila,** *Mart.* Nearly stemless, herbaceous; down jointed; *leaves cuneate-spathulate,* blunt, crenate above, subsessile, membranaceous: hairs scattered; *peduncles* 1–2-flowered, *exceeded by the leaves; calyx-tube* ovate-oblong, *subecostate: lobes lanceolate, bluntish,* one-third as long as the corolla-tube; corolla white, "purple at the base," narrowly campanulate: lobes short, unequal, spreading-erect, rounded, ciliate: the superior lip equalling the stamens.—Gesnera, *Sw.*—Root perennial; rosular leaves 3″–1½″, peduncles 1″–½″, corolla 6‴ long.—HAB. Jamaica!, *Pd.*, *Wullschl.*, on moist rocks, Manchester, Westmoreland.

TRIBE II. *BESLERIEÆ.—Embryo cylindrical, enclosed by albumen or nearly exalbuminous* (Cyrtandreæ). *Calyx free from the ovary.*—Leaves opposite: one often smaller in the pair (or reduced).

Episcia and *Tussacia,* having been found by Bentham nearly devoid of albumen, would form a passage into *Cyrtandreæ,* which I know no longer how to distinguish from *Beslerieæ.*

8. EPISCIA, *Mart.*

Calyx 5-partite, equal. *Corolla* infundibular, straightish, narrower than the subequal limb: stamens inserted near its base: filaments connected in pairs. *Capsule* medianicide.—Flaccid, pilose herbs; peduncles *axillary, few–*1*-flowered.*

18. **E. melittifolia,** *Mart.* Stem ascending; *leaves elliptical,* pointed, crenate, *long-petioled,* glabrescent; peduncles about as long as the petiole: flowers purple; calyx-segments ovate-lanceolate, acuminate, about half as long as the deflexed corolla-tube.—*Bot. Mag. t.* 4720.—Besleria, *L.* Skiophila, *Hanst.*—1′ high or lower; leaves 8″–4″, calyx 4‴–5‴ long.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [French islands!, *Sieb. Mart. suppl.* 14, in moist woods].

19. **E.? subacaulis,** *Gr.* (*n. sp.*). Stemless, or stem reduced; *leaves approximate, spathulate-oblong,* pointed, subserrate above, *cuneate at the subsessile base:* down scattered; peduncles few-flowered, half as long as the leaves; calyx-segments ovate-lanceolate, pointed.—Our specimens are in fruit; membranaceous leaves 6″–3″, calyx 3‴ long, its segments reticulated, exceeding the capsule.—HAB. Trinidad!, *Cr.*, Las Cuevas.

9. TUSSACIA, *Rchb.*

Character of *Episcia*, but calyx campanulate, inflated, shortly 5-fid.—Erect herbs; corymbs *umbelliform, peduncled; calyx coloured, red.*

20. **T. pulchella,** *Rchb.* Down pubescent; leaves ovate or ovate-oblong, pointed, crenate-serrate above the narrowly cuneate, scarcely petioled base; calyx-lobes deltoid, serrate, one-half to one-third as long as the tube; corolla yellow, nearly regular: tube erect, cylindrical, half as long again as the calyx.—*Bot. Mag. t.* 1146.—Besleria, *Don.* Episcia, *Mart.* Skiophila, *Hanst.*—1′ high; leaves 7″–3″, corolla 16‴–12‴ long.—Hab. Jamaica!, *March*; S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba; Panama!].

10. BESLERIA, *L., Oerst.*

Calyx campanulate, at length globose, shortly 5-fid. *Corolla* tubular: tube straightish, subcylindrical: limb short, 2-lipped. *Stamens* inserted near the middle of the corolla-tube: filaments distinct: anthers reniform, with confluent cells. *Pericarp* baccate, rupturing.—Nearly simple half-shrubs; flowers *fascicled(-single) in the axils.*

21. **B. lutea,** *L.* Glabrescent; leaves elliptical or elliptical-oblong, pointed, serrate above, petioled; pedicels longer than the calyx; calyx half as long as the yellow, slightly gibbous corolla: lobes subulate; berry globose.—*Plum. Ed. Burm. t.* 49.—Stem 6′–10′ high; leaves 8″–4″, pedicels 6‴–8‴, calyx 5‴, corolla 10‴ long.—Hab. Jamaica!, all coll., in moist mountain-woods; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb.*; [French islands!; Venezuela! to New Granada! and equat. Brazil].

11. COLLANDRA, *Lemair.*

Calyx 5-leaved. *Corolla* tubular, gibbous at the base: limb short, suberect, subequal. *Stamens* inserted near the corolla-base: filaments distinct: anthers reniform, with confluent cells. *Pericarp* "baccate."—Stout, nearly simple, large-leaved half-shrubs; leaf-veins *costate-arched; flowers shortly pedicellate, glomerate in the axils.*

22. **C. petiolaris,** *Gr.* (*n. sp.*). Down appressed-woolly; *leaves* elliptical or obovate-oblong, minutely serrulate or subentire, *long-petioled*, glabrescent: the pair equal; glomerules exceeded by the petiole; *sepals lanceolate-acuminate, quite entire*, woolly, exceeding half the corolla; corolla straight above.—Leaves 12″–4″, sepals 3‴–5‴, corolla 5‴–8‴ long.—Hab. Dominica!, *Imr.*

12. ALLOPLECTUS, *Mart.*

Calyx 5-leaved, lax, coloured, subequal. *Corolla* tubular, oblique: limb short, subequal. *Stamens* inserted near the corolla-base: filaments distinct: anther-cells ovoid. *Pericarp* "baccate."—Trailing half-shrubs; peduncles *axillary, 1-flowered.*

23. **A. cristatus,** *Mart.* Pubescent by jointed, flaccid down; leaves small, elliptical, serrulate, petioled; peduncles solitary, nearly as long as the leaves; sepals crimson, ovate, pointed, inciso-serrate, often oblique at the base, one-third to one-half as long as the yellowish, pilose corolla.—*Jacq. Amer. Pict. t.* 180.—Besleria, *L.* Prionoplectus, *Oerst.*—Woody stem rooting; leaves 2″–1″, sepals 4‴–6‴, corolla 1″ long.—Hab. Nevis, Dominica!, *Imr.*, S. Vincent!, *Parker*; [French islands!, *Sieb. Mart.* 161, in moist mountain-woods; Guiana].

13. DRYMONIA, *Mart.*

Calyx 5-leaved, oblique: superior sepals smaller. *Corolla* oblique, broadly campanulate, gibbous at the base: limb slightly 2-lipped: lobes large, erect-spreading, subequal. *Stamens* inserted near the corolla-base: anthers transversely accumbent: cells oblong, produced at the base. *Capsule* compressed, 2-valved.—Trailing half-shrubs; peduncles *single in the axils, 1-flowered.*

The character of the anthers is taken only from *D. cristata*, Miq.

24. **D. parvifolia,** *Gr.* (*n. sp.*). Leaves elliptical, pointed at both ends, crenulate or

repand-entire, puberulous; *sepals* broadly ovate, bluntish, *repand-entire,* 2 *inferior* larger, *semicordate,* superior about as long as the corolla-tube; corolla-lobes dentate; *capsule ovate, pointed.*—Branches thick, 4-gonal; leaves 3″–2″, petioles 6‴–4‴, peduncles 8‴–6‴, larger sepals 1½″–1″ long, the latter 10‴–12‴ broad; corolla-tube 1″ long, 9‴ broad, oblique in a right angle at the base, equally subcylindrical above: lobes 8‴–5‴ diam., partly spreading; capsule 6‴ long.—HAB. Jamaica!, *Pd.*, in moist woods near Mancha.

14. PTERYGOLOMA, *Hanst.*

Calyx 5-leaved, lax, subequal. *Corolla* tubular, gibbous at the base: limb short, 2-lipped. *Stamens* inserted near the corolla-base: filaments connected in pairs: anther-cells transverse, shortly oblong or quadrate. *Pericarp* baccate, rupturing.—Trailing, branched half-shrubs; leaves *petioled, the pair often unequal;* peduncles *single or fascicled in the axils,* 1-*flowered.*

25. **P. repens,** *Hanst.* Glabrescent; leaves elliptical, pointed at both ends, remotely serrulate above, about as long as the peduncles: one in the pair often reduced; *sepals coloured, ovate, pointed, quite entire, half as long as the corolla-tube;* corolla yellow, red-variegated, clavate, inflexed above the gibbous base: upper lip 2-fid, inferior lobes shortly oblong, blunt.—*Bot. Mag. t.* 4250.—Alloplectus, *Hook.* Besleria Berteriana, *DC.* (ex descr.).—Leaves 1½″–1″, sepals 6‴–4‴; corolla 16‴–12‴ long, the latter 3‴ diam.—HAB. Jamaica!, *Pd.*, *Wullschl.*, Bluefield mountains at 2000′ alt., Manchester; [New Granada].

26. **P. pubescens,** *Gr.* (*n. sp.*). Villous-pubescent with jointed down; leaves elliptical, apiculate, remotely serrulate above: the pair unequal, the larger much exceeding the single peduncles; *sepals green* or hoary with down, *ovate-oblong, pointed, quite entire,* spreading, *one-third to one-fourth as long as the corolla-tube;* corolla yellow, subcylindrical, and incurved-erect above the gibbous base: lobes short, ovate-roundish.—Habit of the preceding, but very pubescent; leaves 2½″–2″, smaller about 8‴–6‴, sepals 4‴, corolla about 1″ long, the latter 2½‴ diam.: lobes 1‴ diam.—HAB. Jamaica!, *Wils.*, Portland at 2000′ alt.

27. **P. cristatum,** *Gr.* (*n. sp.*). Down jointed; branches purple-villous; leaves ovate, pointed, remotely serrulate above the middle, softly pubescent: the pair unequal; peduncles single, as long as the calyx, equalling the petiole; *sepals green, pinnatifid with spreading, long-ciliate lobes,* tapering towards the bluntish top, one-third as long as the corolla-tube; corolla crimson- and yellow-streaked (in drying), clavate, erect above the gibbous, inflexed base: lobes short, reniform-roundish, subequal, ciliate.—Larger leaves 2″–1½″ long, smaller about half as long; sepals 4‴–5‴ long, erect-spreading: their lobes 3–5-jugal, more approximate near the rounded base, passing into a pair of distant serratures above, the inferior oblong-linear, longer than the diameter of the middle part; corolla 1″ long, 3‴ diam.: lobes 1‴ diam.—HAB. Jamaica!, *Pd.*, *Wils.*, *Al.*, *Wullschl.*, S. Anns, Manchester.

15. COLUMNEA, *L.*

Calyx 5-partite, subequal. *Corolla* deeply 2-lipped: tube narrow: lateral lobes connected with the subentire or 2-fid upper lip, inferior lip narrow, deflexed. *Stamens* inserted near the corolla-base: filaments connected in pairs: anther-cells transverse, shortly oblong. *Pericarp* baccate, "dehiscent:" funiculi filiform.—Trailing half-shrubs; peduncles *single or fascicled in the axils,* 1-*flowered:* flowers *large;* stigma 2-*lobed in the West Indian species.*

* *Inferior and lateral corolla-lobes difform: upper lip subentire.* (Eucolumnea, *Oerst.*)

28. **C. scandens,** *L.*, *Sw.* Softly pubescent; leaves small, elliptical, bluntish, subentire; peduncles single, shortly exceeding the petiole; *calyx-segments lanceolate, acuminate, quite entire, one-third as long as the crimson corolla;* corolla hairy: *upper lip subentire,* lateral lobes obliquely ovate-oblong, blunt, spreading, inferior oblong-linear.—*Jacq. H. Vind.* 3. *t.* 48.—Leaves 1″–1½″, peduncles 2‴–6‴, calyx 6‴, corolla 1½″ long.—HAB. Dominica!, *Imr.;* Trinidad!, *Cr.;* [Portorico! to Guiana].

29. **C. speciosa,** *Prl.* Branches rusty-villous; leaves small, elliptical, bluntish, subentire, pubescent or glabrate; peduncles geminate or single, 3–4 times as long as the pe-

tiole; flowers rusty-villous, crimson; *calyx-segments pinnatifid at the base, lanceolate-acuminate above it;* corolla 3–4 times as long as the calyx: *upper lip shortly emarginate or subentire,* lateral lobes obliquely ovate-oblong, blunt, spreading, inferior oblong-linear.—*Bot. Mag. t.* 1614.—C. scandens, *Bot. Mag.*—Leaves about 1″, peduncles 8‴–4‴, calyx 5‴–6‴, corolla 2″–1½″ long.—Hab. S. Vincent!, *Guild.*

30. **C. argentea,** *Gr.* (*n. sp.*). Softly *hoary-sericeous;* leaves oblong-lanceolate, pointed, entire, shortly petioled; peduncles ternate-geminate, twice to thrice as long as the petiole; flowers woolly-sericeous (yellow in drying); *calyx-segments oblong-lanceolate, acuminate, quite entire, half as long as the corolla;* corolla 2-lipped to the middle: lateral lobes oblong, blunt, spreading, adnate to the middle of the erect, *bluntly emarginate, upper lip,* inferior lobe oblong-linear.—Branches thick, leafy; leaves 5″–3″, petioles 3‴–2‴, peduncles 6‴–8‴, calyx 10‴ long; corolla 2″ long: tube gibbous at the base, clavate above it, 4‴ diam. at the throat, upper lip and lateral lobes 2‴, inferior 1‴ broad; stigma-lobes deltoid, exceeded by the corolla.—Hab. Jamaica!, *Wullschl.*, Manchester at Nazareth.

** *Inferior and lateral corolla-lobes nearly conform: upper lip 2-fid.*
(Isocolumnea, *Oerst.*).

31. **C. hirsuta,** *Sw.* Villous with long, jointed down; leaves elliptical or oblong, pointed, serrulate above; peduncles single, nearly as long as the petiole; *calyx-segments oblong-linear, acuminate, remotely dentate,* half as long as the corolla; upper corolla-lip 2-fid with an open sinus, adnate below the middle to the lateral, spreading lobes: 2 upper lobes ovate, erect, 3 inferior oblong, bluntish.—*Br. Jam. t.* 30. *f.* 3. *Sl. t.* 100. *f.* 1: bad.—Leaves 2″–4″, peduncles 6‴–10‴, calyx 10‴–12‴, corolla 2″ long.—Hab. Jamaica!, all coll., common on trees and rocks in moist woods; Dominica!, *Imr.*; [Haiti!].

32. **C. hispida,** *Sw.!* Pilose with jointed down; leaves elliptical, bluntish, serrulate above; peduncles single, as long as the petiole; flowers pilose (yellowish in drying); *calyx-segments lanceolate, quite entire,* about one-third as long as the corolla; upper corolla-lip emarginate with an open sinus, adnate below the middle to the lateral, spreading lobes: 2 upper lobes semiorbicular, erect, 3 inferior oblong, bluntish, the lateral broader at the base.—Down shorter, and leaves often more hispid than in the preceding; leaves 5″–2″, peduncles 4‴–8‴, calyx 8‴, corolla 2″ long.—Hab. Jamaica!, *Sw.*, *Wullschl.*, on shady mountain rocks, Manchester.

33. **C. rutilans,** *Sw.!* Pubescent with jointed down; leaves ovate-oblong, acuminate, serrate above the base, usually red beneath; peduncles 3–1, often shorter than the petiole; *calyx rusty-villous: segments ovate-oblong, bluntish, pinnatifid below the middle, with a few teeth* above it; "upper corolla-lip 2-fid, 3 inferior nearly conform, lanceolate." Leaves 8″–2½″, peduncles 4‴–6‴, calyx 8‴–10‴ long.—Hab. Jamaica!, *Sw.*, *Pd.*, in woods, on trees, Manchester, northern districts.

Tribe III. *PEDALINEÆ.—Seeds exalbuminous: cotyledons "broad." Segments of the placentæ forming spurious* (*mostly* 4) *cells by adhesion to the pericarp, leaving an empty space in the axis.*—Anthers distinct: cells contiguous by their base. Ovary superior.

16. MARTYNIA, *L.*

Calyx 5-leaved or 5-fid, oblique. *Corolla* 2-lipped: tube obliquely campanulate. *Stamens* didynamous or 2. *Capsule* beaked, medianicide, many–several-seeded: fertile cells 4.—Viscous-pubescent, large-leaved, annual herbs; *all or* inferior leaves *opposite, cordate-roundish;* flowers *racemose.*

34. **M. diandra,** *Glox.* Leaves long-petioled, sinuate-dentate, all opposite; racemes terminal, subsessile; calyx 5-leaved; stamens 2; capsule obliquely half-elliptical, much longer than its uncinate beak.—*Jacq. Schœnbr.* 3. *t.* 289.—Leaves 6″ diam.; sepals 8‴ long, ovate, pointed; corolla 2½″–1½″ long, whitish: lobes roundish, with purple blotches.—Hab. Antigua!, *Wullschl.*, a weed; [Cuba!; Mexico!].

17. CRANIOLARIA, *L.*

Calyx spathaceous, 5-dentate. *Corolla* salver-shaped: tube filiform, campanulate at the

summit: limb slightly 2-lipped, with subequal segments. *Stamens* didynamous. *Fruit* "drupaceous, indehiscent, 2-beaked: fertile cells few–1-seeded."—Viscous-pubescent herbs; leaves *opposite, superior alternate;* flowers large, *peduncled, solitary in the axils, or the superior racemose.*

35. **C. annua,** *L.* Leaves cordate-roundish, palmatifid: lobes dentate-sinuate; corolla white: tube 5–6 times as long as the calyx, and as the diameter of the limb.—*Jacq. Amer. Pict. t.* 166.—Corolla-tube 6″–7″ long.—HAB. Trinidad!, *Lockh.*, in savannahs; [Haiti; New Mexico! to Venezuela!].

CXVII. CONVOLVULACEÆ.

Stamens 5(–4), inserted into the sympetalous, mostly plaited corolla. *Ovary* 2–4(–many)-celled, rarely paracarpous or apocarpous: ovules of each carpel 2–1, erect. *Embryo* mostly curved, with the cotyledons corrugate, rarely undivided: albumen thin or none.—Stem often twining, usually herbaceous; leaves *alternate, mostly exstipulate;* flowers *cymose or single, mostly axillary;* sepals *usually distinct;* corolla-limb *often repand-entire.*

The milky sap is drastic: drugs, similar to the *Jalap* of Mexico, are obtained from several *Ipomœæ*, viz. *I. tuberosa, cathartica, macrorrhiza,* and *acetosifolia.* The tubers of *Ipomœa Batatas* are the sweet potatoes, cultivated in all tropical countries; the tubercles of *I. repanda* also are eatable, while the large tubers of others (except *I. fastigiata*) are drastic.

1. ARGYREIA, *Lour.*

Calyx 5-leaved. *Corolla* campanulate-infundibular. *Ovary* 4-celled: cells 1-ovulate; stigma 2-lobed-capitate. *Pericarp indehiscent.*—Climbers; flowers *large;* ovary *in our species supported by an annular disk.*

1. **A. tiliifolia,** *Wight.* *Puberulous;* leaves cordate-roundish, entire; *peduncles 1–few-flowered,* exceeded by the petiole; sepals leathery, rounded, one-fifth as long as the corolla; corolla abruptly tapering at the base; seeds minutely puberulous.—*Wight Ic. t.* 1358.—Convolvulus, *Descr.* Rivea, *Chois.*—Corolla rosy, 3″ long.—HAB. Jamaica!, *Pd.*, along the seashore; Antigua!, *Wullschl.*, Dominica!, *Imr.;* [all tropical countries].

2*. **A. bracteata,** *Chois.* Branches hoary-tomentose; *leaves* cordate-roundish, entire, *sericeous-tomentose beneath; cymes contracted-corymbiform, long-peduncled;* sepals oval-roundish, mucronate, externally tomentose, one-fourth as long as the corolla; *corolla sericeous-tomentose* (except at the plaits), abruptly tapering at the base.—*Hook. Compan. Bot. Mag.* 1. *t.* 3.—Corolla $2\frac{1}{2}''$ long.—HAB. Naturalized in Jamaica!, *March;* Antigua!, *Wullschl.;* [introduced from the East Indies].

2. IPOMŒA, *L.*

Calyx 5-leaved. *Corolla* campanulate or infundibular, rarely salver-shaped. *Ovary* 4–6-ovulate: cells 2–4; stigma 2(–3)-lobed–capitate, rarely capitate. *Capsule-valves* seceding from the dissepiment.—Climbers; rarely trailing herbs.

Sect. 1. CALONYCTION, *Chois.—Sepals membranaceous, at length leathery. Corolla large, salver-shaped: tube cylindrical. Ovary 2-celled, 4-ovulate: no cupuliform disk. Capsule rupturing at the base, splitting upwards into irregular valves.*

3. **I. bona-nox,** *L.* Glabrous; leaves cordate-roundish, pointleted, entire or sinuate-dentate (–3-lobed) at the auricles; peduncles 3–1-flowered; *sepals unequal,* 2 interior oval-oblong, blunt, 3 *exterior* ovate-lanceolate, *terminated by a filiform appendage,* one-fourth to one-sixth as long as the cylindrical corolla-tube; stamens shortly exserted; "capsule oblong: *seeds glabrous.*"—*Sl. t.* 96. *f.* 1. *Rich. Cub. t.* 63.—Calonyction megalocarpon, *Rich.* C. speciosum, *Chois. ex parte:* Choisy's diagnosis and many of his synonyms belong to *I. muricata,* Jacq., a purple-flowered *Calonyction,* with equal, mucronate sepals.—Corolla white, nocturnal: tube 3″–4″ long, 2‴–3‴ diam.; open limb 4″–5″ diam.—HAB. Jamaica!, *Dist., March;* Trinidad!, *Cr.;* [Cuba! and Mexico! to Buenos Ayres!; Pacific islands!; trop. Asia! and Africa!].

4. **I. tuba,** *Don.* Glabrous; leaves cordate-roundish, apiculate, entire; peduncles 1-flowered, at length thickened; *sepals subequal,* ovate-oblong, *blunt,* one-third to one-fourth as long as the cylindrical corolla-tube; stamens included; capsule globose, enclosed by the calyx: *seeds* puberulous and *villous* at the hilum and *along the angles.*—Convolvulus, *Schlecht.* Calonyction grandiflorum, *Chois.: exclus. synon.*—This species, confounded by Choisy with *Conv. grandiflorus,* Jacq., is to be compared with *I. longiflora,* R. Br., having, as described by him, two glands at the top of the petiole. Corolla white: tube $2\frac{1}{2}''$ long, $3'''$ diam.; capsule $1''$ diam.—Hab. S. Vincent!, *Guild.;* [Haiti to French islands!; Guiana!].

Sect. 2. Operculina, *Manzo.—Sepals large, scarious, at length cartilaginous. Corolla large, infundibular or campanulate: tube broad, dilated from the base. Anthers included, at length subcontorted. Ovary 2-celled, 4-ovulate: no cupuliform disk. Capsule rupturing transversely about the middle.*

5. **I. ventricosa,** *Chois.* Stem pubescent, glabrate; *leaves cordate-roundish,* mucronate-apiculate; peduncles few–1-flowered, at length thickened: bracts oblong, deciduous; *sepals* ovate, rounded, *one-third to one-fourth as long as the corolla; corolla infundibular:* tube campanulate; capsule globose, large, thin above the middle, included by the growing, connivent sepals: seeds minutely puberulous.—Convolvulus, *Berter.* C. grandiflorus, *Jacq.* (*Vind.* 3. *t.* 69) is perhaps a larger-flowered form of the same, distinguished from Calonyction by the corolla dilated from the base.—Sepals $1''$, at length nearly $2''$ long; corolla yellowish-white, $2\frac{1}{2}''$–$3''$ long; capsule $1''$ diam.—Hab. Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [Swedish and French islands!].

6. **I. pterodes,** *Chois.* Glabrous; stem and peduncles often 2-winged; *leaves cordate,* pointed, repand-entire or sinuate at the auricles; peduncles few–1-flowered; *sepals* ovate-roundish, *half as long as the corolla; corolla broadly campanulate-obconical,* yellow; "capsule globose."—Corolla $2''$ long and as broad at the summit, opening at nine o'clock in the morning (*Cr.*).—Hab. Trinidad!, *Cr.;* [Panama!, Venezuela!, Guiana].

7. **I. tuberosa,** *L.* Glabrous; *leaves deeply palmatifid:* segments 7, elliptical-lanceolate, pointleted, entire, peduncles few-flowered, at length thickened above; *sepals* ovate, rounded, *half as long as the corolla; corolla campanulate-infundibular,* yellow; capsule globose, large, chartaceous, included by the growing, connivent sepals: dissepiment simple, or at length obsolete: seeds pubescent.—*Sl. t.* 96. *f.* 2.—A very high climber; tuber "as large as a head," not eatable; common base to the leaf-segments $6'''$–$8'''$ diam.; corolla $2''$ long; capsule $1\frac{1}{2}''$–$2''$ diam.—Hab. Jamaica!, *Dist., March;* [Cuba! to French islands!; Mexico! to Guiana; East Indies!, trop. Africa].

Sect. 3. Schizips.—*Sepals membranaceous, at length leathery. Corolla campanulate-infundibular, white. Anthers included, at length recurved-subcontorted. Ovary 4–2-celled, 4-ovulate, supported by a cupuliform disk. Capsule dehiscent into irregular valves.*

* *Ovary 2-celled; dissepiment of the capsule at length obsolete.*

8. **I. dissecta,** *Pursh.* (*non W., R. Br.*). Branches pilose; *leaves deeply palmatifid: segments* 7–5, elliptical-lanceolate, *pinnatifid* or sinuate-dentate, glabrescent; peduncles 1(–2)-flowered; *sepals glabrous,* oblong, bluntish, *longer than half the corolla or half as long,* connivent around the capsule; ovary 2-celled; seeds glabrous.—*Jacq. Obs.* 2. *t.* 28.—Convolvulus, *L.* I. sinuata, *Orteg.*—Leaves yielding a flavour of prussic acid; calyx $8'''$–$10'''$, corolla $1\frac{1}{2}''$ long, the latter white (or purplish at the base).—Hab. Jamaica!, *Al., Dist., Berter., March;* Antigua!, *Nichols., Wullschl.,* S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [southern United States; and all tropical countries!].

** *Ovary 4-celled; dissepiment of the capsule persistent.*

9. **I. pentaphylla,** *Jacq.* (*non Cav.*). Branches pilose; *leaves* 5-*partite: segments* elliptical or lanceolate-elliptical, pointleted, *entire;* cymes lax, peduncled; *sepals* ovate-oblong, bluntish, unequal, 3 *exterior* longer, *densely hirsute-pilose below, longer than half the corolla or half as long,* connivent around the capsule; capsule 4-celled: seeds glabrous.—*Jacq. Ic. Rar. t.* 319.—Convolvulus, *L.* Batatas, *Chois.*—Exterior sepals $8'''$–$10'''$, their

hairs 2‴, corolla 15‴ long.—HAB. Jamaica!, *Al.*, *March;* S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Lane, Cr.;* [French islands!, *Sieb. Mart.* 280; Venezuela!, Ecuador!; Pacific islands!; trop. Asia! and Africa!].

10. **I. glabra,** *Chois.* Glabrous (or glabrescent); *leaves* 5-*partite: segments* elliptical-lanceolate or lanceolate, pointed, shortly petiolulate, *entire;* cymes lax, peduncled; *sepals* oblong, blunt, subequal, *glabrous, about half as long as the corolla, at length spreading;* ovary 4-celled.—*Aubl. t.* 53; *R. P. Fl. Peruv. t.* 118. *b.*—Convolvulus, *Aubl.* Batatas, *Benth.* C. macrocalyx, *R. P.*—Sepals 10‴, corolla 1½″ long.—HAB. Trinidad!, *Cr.;* [Venezuela and Guiana to Brazil and Peru!].

11. **I. quinquefolia,** *Gr.* Branches pilose or glabrescent; *leaves* 5-*partite: segments* lanceolate or elliptical-lanceolate, acuminate, *serrate*, the middle larger; cymes few(–1)-flowered, peduncled; *sepals glabrous*, blunt, unequal, *the interior* longer, oblong, *about half as long as the corolla*, appressed to the capsule, the exterior ovate; capsule 4-celled: seeds puberulous, at length glabrate.—*Desc. Fl.* 6. *t.* 394.—Convolvulus, *L.* Batatas, *Chois.*—Longer sepals 4‴, corolla 8‴–9‴ long.—HAB. Jamaica!, all coll.; [Cuba! and Mexico! to Venezuela!, Bogota! and Peru].

Sect. 4. BATATAS, *Rumph.*—*Sepals membranaceous, at length leathery. Corolla usually large, broadly campanulate-infundibular, ventricose above the cylindrical base. Anthers included. Ovary 4-ovulate, 2-celled or 4-celled at the summit by a navicular, secondary dissepiment, supported by a cupuliform disk. Capsule dehiscent into valves: valves usually irregular.*

* *Ovary 2-celled to the summit; seeds devoid of cotton.*

12*. **I. Batatas,** *Lam.* Glabrous (or branches hispidulous); *leaves cordate, repand-entire, or sinuate–3–7-lobed;* cymes peduncled, usually few-flowered; *peduncles as long as* or exceeded by *the long petiole; sepals oval or oblong, mucronate, one-fifth to one-fourth as long as the corolla*, 2 exterior shorter; corolla rosy or white; capsule 2-celled: *seeds* (immature) *glabrous*, except a few puberulous lines.—*Tuss. Fl.* 4. *t.* 1. *Desc. Fl.* 8. *t.* 545. *Catesb. Car.* 2. *t.* 60: bad.—Convolvulus, *L.* Batatas edulis, *Chois.:* but not agreeing with his generic character.—Perhaps merely a form of the following species, transformed by culture. Root tuberiferous, eatable; longer sepals 5‴, corolla 2″–1½″ long.

α. Sepals and ovary glabrous, the former oval; leaves cordate-deltoid, repand or sinuate at the auricles; corolla rosy; tuber brick-coloured, greenish-yellow within (*March*).

β. leucorrhiza. Sepals and ovary glabrous, the former oblong; leaves 5–7(–3)-lobed beyond the middle: lobes ovate-lanceolate, acuminate, diverging, the middle usually broader; corolla variegated, rosy and white; tubers white, elongated (*March*).

γ. porphyrorhiza. Sepals oval-oblong, long-ciliate; ovary hispid; leaves of *α*; corolla white; tubers purple, yellowish-white within (*March*).

HAB. Naturalized in Antigua!. *Wullschl.* (*β*), and generally cultivated in Jamaica!, *March* (*α*, *β*, *γ*), the Caribbean Islands and all tropical countries; [origin unknown, but said to be American (*A. DC.*)].

13. **I. fastigiata,** *Swt.* Glabrous (or glabrescent); *leaves cordate*, pointleted, *repand-entire or sinuate*–3–5-*lobed;* cymes fastigiate, 12–few-flowered, peduncled: *peduncle exceeding* (rarely equalling) *the petiole; sepals oblong, mucronate, one-fifth to one-fourth as long as the corolla*, 2 exterior shorter; corolla purple (or white); capsule 2-celled: *seeds glabrous.*—I. cymosa, *Mey.!* I. stenocolpa, alba, and longipes, *Gark.!:* the latter a form with ciliate sepals like I. Batatas, *γ*.—Root tuberiferous (called wild potatoe in Jamaica); longer sepals 5‴, corolla 2″ long; stem twining (while in I. Batatas it is creeping, trailing, or with twining summits).

α. Leaves cordate-deltoid, entire.

β. platanifolia, R. S. Leaves cordate–3-lobed: middle lobe longer, acuminate, lateral sinuate–few-dentate or entire.—Convolvulus, *V.* I. pandurata, *Mey. Esseq.!* (*exclus. syn. Linn.*).

HAB. Jamaica!, all coll. (*α*, rarely *β*), in thickets and hedges; Antigua!, *Wullschl.*, Dominica!, *Finl.*, S. Vincent!, *Guild.;* Trinidad; [Cuba! and Mexico! to Brazil!].

14. **I. sidifolia,** *Chois.* Glabrous; *leaves cordate*, usually pointleted, *entire;* cymes

many-flowered, corymbiform, peduncled: peduncle equalling or exceeding the petiole; *sepals oblong,* blunt, bluntish or mucronulate, *the interior one-third as long as the corolla,* the 2 exterior much shorter, corolla white; "capsule ellipsoidal, usually 1-seeded by abortion: seed pubescent."—*Sl. t.* 97. *f.* 1. *Bot. Reg.* 1843, *t.* 24.—I. cymosa, *Lindl.* (*non R. S.*).—Longer sepals 4‴–5‴, corolla 1″ long, odorous; capsule "5-valved" (*Sl.*).—Hab. Jamaica!, *Dist.*, *Al.*, *Wullschl.*, *Wils.*, *March*; [Cuba!, Haiti!; Mexico! to Panama!].

15. **I. cyanantha,** *Gr.* (*n. sp.*). Glabrous; *leaves cordate-oblong,* bluntish, entire or repand; peduncles 1-flowered, jointed at the middle, exceeding the petiole; *sepals oblong, blunt, one-fifth as long as the corolla,* the 2 exterior shorter; *corolla blue:* limb 5-lobed; capsule ellipsoidal, 2-celled: *seeds* (immature) pubescent, *villous at the margin.*—Stem herbaceous, twining; leaves 4″–2″ long, 2″–¾″ broad: petiole 10‴–6‴, peduncles 18‴–8‴ long; larger sepals 5‴ long, appressed to the capsule; corolla "fine-blue" (*Pd.*), 2″–2¼″ long: cylindrical part as long as the calyx, campanulate part below the infundibular limb 8‴–10‴ diam., expanded limb nearly 2″ diam.: its lobes shortly deltoid; anthers straight; stigma-lobes roundish; capsule 6‴ long, 4-seeded: seeds angular-oblong, black: down pale, marginal hairs perhaps growing into cotton.—Hab. Jamaica!, *Pd.*, *Wullschl.*, in the mountains of S. Andrews, Manchester.

16. **I. violacea,** *L.* Glabrous; *leaves cordate-roundish,* pointleted, entire or sinuate-repand; cymes few-flowered or shortly trichotomous, peduncled: peduncle exceeding the petiole, thickish; *sepals oblong-lanceolate, bluntish,* subequal, *one-eighth to one-sixteenth as long as the corolla;* corolla purple; capsule ellipsoidal, 2-celled: *seeds* (immature) *puberulous,* "glabrate."—*Plum. Ed. Burm. t.* 93. *f.* 1. *Sl. t.* 98. *f.* 1.—Pharbitis, *Boj.*—Allied to *I. variabilis,* Chois., which has longer sepals. Sepals 2‴–3‴, less leathery than in the allied species, membranaceous at the margin, glabrous; corolla 2″–2½″ long.—Hab. Jamaica!, *Al.*; [Venezuela!].

17. **I. setosa,** *Lindl.* Branches and petioles hirsute with flexuose, recurved hairs; *leaves* large, *cordate-3-lobed,* glabrous or glabrescent: *lobes* broadly ovate, *sinuate-dentate;* cymes peduncled: peduncle exceeding the petiole: pedicels clavate; *sepals ovate-oblong, blunt,* mucronulate, *one-eighth to one-tenth as long as the corolla,* 2 exterior shorter; corolla purple, campanulate to the middle, broadly infundibular above it; ovary 2-celled; *seeds* (immature) *glabrous.*—*Bot. Reg. t.* 335: corolla not quite, but leaves perfectly agreeing, they are similar to those of the grape.—Sepals 3‴–4‴, corolla 2″–2½″ long, often 3″ diam. at the summit.—Hab. Jamaica!, *March,* perhaps introduced; [Brazil].

** *Ovary 4-celled at the summit, 2-celled below it; seeds bearing wool.*

18. **I. digitata,** *L.* Glabrous; *leaves palmatifid,* usually much beyond the middle: lobes 7–5 (–3), oblong-lanceolate, rarely ovate, entire; cymes many(–few)-flowered: peduncle exceeding the petiole; *sepals oval, blunt, concave, about one-sixth as long as the corolla;* corolla rosy; capsule 2-celled, except at the summit: *seeds bearing cotton-like,* serial and terminal *wool,* glabrous between it.—*Plum. Ed. Burm. t.* 92. *f.* 1. *Jacq. Schœnbr. t.* 200.—I. mauritiana, *Jacq.* I. paniculata, *R. Br.* (Convolvulus, *L.*, Batatas, *Chois.*). I. tuberosa, *Mey. Esseq.!* (*non L.*).—Root tuberiferous, "drastic;" sepals 4‴, corolla 2″–1½″ long.—Hab. S. Vincent!, *Guild.*; [Haiti and Panama! to Guiana!; trop. Africa! and Asia!].

19. **I. jalapa,** *Pursh.* Branchlets pubescent or glabrate; *leaves cordate-roundish,* entire (or "sinuate-lobed"), puberulous above, *hoary-tomentose beneath;* peduncles 3–1-flowered; *sepals ovate, blunt, one-twelfth to one-ninth as long as the corolla;* corolla rosy (or "white"); "*seeds woolly:* wool long, spreading along the margin."—*Ann. Mus.* 2. *t.* 40.—Convolvulus, *L.* Batatas, *Chois.*—Sepals 4‴, corolla 4″–3″ long.—Hab. S. Vincent!, *Guild.*; [southern United States; Mexico! to Brazil; East Indies!].

20. **I. carnea,** *Jacq.* Branches pubescent; *leaves cordate-roundish,* pointleted, *entire,* glabrescent above, *puberulous beneath;* cymes spreading, peduncled; *sepals roundish, one-sixteenth to one-twelfth as long as the corolla;* corolla white or rosy; ovary 4-celled above the middle; *seeds woolly:* wool long, spreading along the margin, shorter and subappressed along two middle lines.—*Jacq. Amer. Pict. t.* 25.—Convolvulus pareirifolius, *Berter.!* (Batatas, *Chois.*).—Sepals 3‴, corolla 3″–4″ long; marginal wool of the seeds 5‴ long, as long as their longitudinal diam.—Hab. Jamaica!, *Bancr.*, *March*; [Venezuela!].

Sect. 5. PENTADACTYLIS.—*Sepals membranaceous or at length leathery. Corolla usually small, purple, narrowly campanulate-infundibular or clavate-infundibular, gradually tapering at the base. Anthers included. Ovary 2-celled, 4-ovulate, supported by a cupuliform disk. Capsule of* Batatas.

21. **I. pulchella,** *Rth.* (*non Wight, non Bot. Mag.*). Glabrous; *leaves palmatipartite* nearly to the base: *segments* 5, entire or the exterior deeply 2-fid, *lanceolate* or elliptical-lanceolate, *pointed;* peduncles 1–2-flowered, nearly as long as the leaves; *sepals ovate-rounded,* equal, one-third to one-fourth as long as the corolla; corolla campanulate-infundibular; capsule 2-celled, globose, much longer than the calyx: *seeds pubescent, bearing a little arachnoid, long wool* along the margin.—*Moris.* 1. *t.* 4. *f.* 5. *Barrel. t.* 319, 320.—I. palmata, *Kotschy Nub.!* (*non Forsk.*): Forskal's plant has "2″ long" flowers.—Sepals 2‴, corolla 6‴–8‴ long, capsule 5‴ diam.—HAB. Antigua!, *Wullschl.;* [Brazil; trop. Africa!, East Indies].

22. **I. Cavanillesii,** *R. S.* Glabrous; *leaves palmatipartite* nearly to the base: *segments* 5, entire or the exterior 2-lobed, *elliptical* or elliptical-oblong, *mucronulate-bluntish;* peduncles 1–few-flowered, nearly as long as the leaves; *sepals ovate, blunt,* subequal, *one-seventh to one-ninth as long as the corolla;* corolla narrowly campanulate below the broad limb; "capsule 2-celled: *seeds woolly.*"—*Cav Ic.* 3. *t.* 256.—I. pentaphylla, *Cav.* I. Bouvetii, *Walp.!*—Axils producing minute, stipuliform bud-leaves; sepals $2\frac{1}{2}$‴–2‴, corolla 18‴ long.—HAB. Jamaica!, *Pd.*, on the sea-coast, Westmoreland; [Guadeloupe!].

23. **I. triloba,** *L.* Branches pilose, glabrescent; *leaves* glabrous, *deeply palmatifid beyond the middle,* (rarely entire, cordate-roundish): lobes 3–5, elliptical, contracted at the base, pointed, entire, exterior semicordate; cymes umbelliform(-1-flowered), peduncled; *sepals ovate-oblong, pointed,* subequal, pilose near the margin, *one-third as long as the corolla;* corolla narrowly campanulate below the infundibular limb; capsule 2-celled, pilose, included by the calyx: *seeds glabrous.*—*Sl. t.* 97. *f.* 1.—I. parviflora, *V.* Convolvulus Sloanei, *Spreng.*—Sepals 3‴, corolla 9‴ long.

α. Leaves deeply palmatifid.

β. *Eustachiana,* Jacq. Leaves cordate-deltoid, entire or repand.—*Jacq. Obs.* 2. *t.* 36. HAB. Jamaica!, *March* (α, β); Antigua!, *Wullschl.* (α, β); [Mexico to Venezuela!].

24. **I. carolina,** *L.* Glabrous; *leaves palmatipartite* to the base: *segments* 5 ("7"–3), entire, *obversely lanceolate or linear, retuse* or blunt, often mucronulate, tapering at the base; peduncles 1–2-flowered; *sepals ovate, blunt,* equal, *one-sixth as long as the corolla;* corolla clavate: limb shortly infundibular; ovary 2-celled; "*seeds glabrous.*"—*Catesb. Carol.* 2. *t.* 91.—I. pentadactylis, *Chois.* I. radicans, *Berter.*—Sepals 3‴, corolla 18‴ long, the latter pale-pink with a shade of green.—HAB. Bahamas (*Catesb.*), on rocks; Jamaica!, *Macf., Wils., March;* [Brazil; East Indies!].

Sect. 6. XANTHIPS.—*Sepals membranaceous-leathery. Corolla obconical above the cylindrical, at length ovoid base. Anthers included, at length subcontorted. Ovary 2-celled, 4-ovulate, supported by a cupuliform disk. Capsule dehiscent into 4 equal valves.*—Flowers yellow in our species; leaves 2-stipulate at the base of the petiole.

25. **I. umbellata,** *Mey.!* Glabrous or puberulous; *leaves cordate,* entire or repand; *cymes* many(-few)-flowered, *umbelliform,* peduncled: peduncle usually exceeding the stipulate petiole; *sepals oval, blunt,* subequal, connivent-imbricate, *one-third to one-fourth as long as the corolla;* corolla yellow; capsule subglobose, 4-seeded: *seeds brown-velvety,* shortly villous along the margin,—*Desc. Fl.* 7. *t.* 524. *Miq. Surin. t.* 37.—Convolvulus, *L.* C. polyanthus, *W.* I. mollicoma, *Miq.!*—Leaves variable, acuminate or cordate-deltoid; sepals 3‴–4‴, corolla 1″ long.—HAB. Jamaica!, *Dist., Al., March,* in hedges; Antigua!, *Wullschl.;* Trinidad!, *Sieb. Tr.* 339, *Lockh.*, common; [Cuba! and Mexico! to Brazil!; trop. Africa!].

Sect. 7. PES-CAPRÆ.—*Seeds membranaceous, at length leathery. Corolla usually large, campanulate-infundibular. Anthers included. Ovary 4-ovulate, 2-celled or 4-celled at the summit: no cupuliform disk. Capsule 2–4-valved to the base.*

* *Seeds devoid of cotton; stem usually creeping.*

26. **I. pes-capræ** *Sw.* Glabrous, long-creeping; *leaves roundish, emarginate,* cuneate-

truncate at the 2-glandular base: *veins pinnate;* peduncles about as long as the petiole, usually few-flowered; *sepals ovate-oblong, blunt,* mucronulate, about one-fifth as long as the corolla, 2 *exterior shorter;* corolla purple, gradually tapering at the base; capsule 2-celled: *seeds rusty-pubescent.—Desc. Fl.* 2. *t.* 130.—Convolvulus, *L.* C. brasiliensis, *L.* I. maritima, *R. Br.*—Creeping to a length of 100′ and more; longer sepals 5‴, shorter 4‴, corolla 2″ long; disk annular.—HAB. Jamaica!, *Dist., Al., March,* on sandy sea-shores; Antigua!, *Wullschl.,* Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil!, and all trop. countries!].

27. **I. asarifolia,** *R. S., Walp.!* Glabrous, creeping; *leaves reniform,* cordate or subtruncate at the 2-glandular base: *inferior veins palmate;* peduncles about as long as the petiole, 1–few-flowered; *sepals* mucronulate, 3 *interior oblong, blunt,* 2 *exterior* roundish, *half as long,* the longer one-eighth to one-sixth as long as the corolla; corolla purple, gradually tapering at the base; capsule 2-celled: seeds (immature) slightly puberulous.—I. urbica, *Chois., Seem.* Longer sepals 5‴, corolla 3″ long—HAB. Jamaica!, *Macf.,* on the sea-shore; [Danish and French islands!; Panama! to Brazil; trop. Africa].

28. **I. acetosifolia,** *R. S.* Glabrous, creeping; *leaves linear-oblong,* cordate or rounded at the base, entire or repand; peduncles about as long as the petiole, 1-flowered; *sepals ovate-oblong,* mucronulate-blunt, one-fourth to one-fifth as long as the corolla; 2 *exterior little shorter;* corolla white, gradually tapering at the base; *ovary 4-celled at the summit, 2-celled below it.—Plum. Descr. t.* 105. *Desc. Fl.* 2. *t.* 145.—Batatas, *Chois.* Convolvulus repens, *Sw.*—Sepals 5‴, corolla 2″ long.—HAB. Jamaica (*Sw.*), on the sandy sea-coast; [Guiana!, Brazil].

29. **I. martinicensis,** *Mey.!* Glabrous (or glabrescent), creeping or twining at the summit; *leaves oblong,* linear-oblong, or rarely oval-oblong, mucronate-blunt, tapering at the base, entire; peduncles exceeding the short petiole, 1–2-flowered, minutely 2-bracteolate; *sepals* pointed, reticulated-veiny, 2 *exterior larger,* elliptical, *decurrent,* half as long as the corolla, 3 interior ovate; corolla white, externally with bands of hairs between the plaits, gradually tapering at the base; capsule 2-celled: *seeds* slightly puberulous, *glabrescent.—Jacq. Amer. Pict. t.* 24.—Convolvulus, *Jacq.* Aniseia, *Chois.* A. ensifolia *and* salicifolia, *Chois.,* A. carnea, *Moric.!:* narrow-leaved forms.—Larger sepals 8‴–10‴, corolla 1″ long.—HAB. Jamaica!, *Pd.,* in the great morass of Westmoreland; [French islands!; Panama!, Guiana!, Brazil!].

30. **I. sericantha,** *Gr.* Pubescent or glabrate, twining above; *leaves oblong* or lanceolate-oblong, mucronulate-blunt, bluntish at the base, entire; peduncles 3(–1)-flowered, exceeding the petiole; *sepals oval-orbicular,* mucronulate-rounded, *subequal,* sericeous or glabrate, one-fourth to one-fifth as long as the corolla; corolla strigose-sericeous in 5 broad bands between the plaits, gradually tapering at the base; capsule 2-celled: *seeds glabrescent.*—I. sericea, *Spreng.* (*non Blum.*).—Habit of the preceding; sepals 3‴–2½‴, corolla 1″ long. HAB. Trinidad!, *Cr.,* at Cedros; [Venezuela!].

** *Seeds bearing cotton; stem twining or trailing.*

31. **I. demerariana,** *Chois.!* Glabrous, twining; *leaves cordate-roundish,* 2-glandular at the base; cymes corymbiform, 8–4(–1)-flowered, long peduncled; *sepals roundish,* rounded, subequal, one-fourth to one-fifth as long as the corolla; corolla pink, gradually tapering at the base; capsule 2-celled, included by the connivent calyx: *seeds* pubescent, *included by marginal, lurid wool.*—Branches thick, becoming woody; sepals 8‴, corolla 3″–3½″ long.—HAB. S. Kitts!, *Els.,* Dominica!, *Imr.;* [Guiana!].

32. **I. macrorrhiza,** *R. S.* (*non Chois.*). Glabrous, suffruticose-trailing; *leaves* 5–3(–"7")-*partite: segments elliptical* or elliptical-oblong, apiculate, petiolulate, entire or repand; cymes lax, dichotomous, many(–1)-flowered, peduncled; *sepals rounded,* 3 interior one-fifth to one-seventh as long as the corolla, roundish, 2 exterior oval-roundish, little shorter; corolla purple or white, slightly ventricose above the base; capsule 2-celled, globose, exceeding the appressed calyx: *seeds* villous, *long-woolly along the margin:* wool rusty-tawny, expanded like fringes.—*Plum. Ed. Burm. t.* 90. *f.* 1. *Jacq. Schœnbr. t.* 37. Convolvulus, *L.* I. ternata, *Jacq.:* a white-flowered form with ternate leaf-segments, sent frequently from Jamaica.—Tuberiferous, variable in the leaves, and the length of the stamens; larger sepals 5‴, smaller 4‴, corolla 3″–2″, seed-fringes 6‴ long.—HAB. Jamaica!, *Dist., Pd., Al., Wullschl., March,* on rocks, Manchester, S. Anns.

Sect. 8. Exogonium, *Chois.*—*Sepals membranaceous, at length leathery. Corolla tubular-salvershaped: tube cylindrical. Anthers exserted during the expansion of the limb. Ovary 4-ovulate, 2-celled or 4-celled at the summit: disk short, annular. Capsule* 4(–6)-*valved.*

33. **I. repanda,** *Jacq.* Glabrous; leaves cordate-acuminate, entire or repand; cymes usually many-flowered; *sepals ovate-roundish, rounded,* coloured, one-sixth to one-fourth as long as the corolla, 2 exterior rather shorter; *corolla* crimson: tube about 4 times as long as the 5-partite limb, *lobes oblong-lanceolate; capsule 2-celled below the 4-celled summit: seeds fimbriate* along the margin, glabrous on the faces.—*Jacq. Amer. Pict. t.* 27.—Exogonium, *Chois.*—Root "with small tubers;" sepals $3'''$, corolla-tube $1\frac{1}{2}''$–$1''$ long.—Hab. Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Cuba to French islands!].

34. **I. filiformis,** *Jacq.* Glabrous; leaves ovate-oblong, slightly cordate at the base, mucronate-bluntish; cymes lax; *sepals ovate-roundish, with a bluntish point,* subequal, one-eighth to one-sixth as long as the corolla-tube; *corolla* pale-purple: tube about 4 times as long as the 5-fid limb: *lobes ovate; capsule 2-celled: seeds glabrous,* narrowly 3-winged. —*Jacq. Amer. Pict. t.* 26.—Exogonium, *Chois.*—Sepals $1\frac{1}{2}'''$, corolla-tube $9'''$–$12'''$ long.—Hab. Antigua!, *Nichols.*, *Wullschl.*, S. Vincent!, *Guild.*; [French islands!].

35. **I. arenaria,** *Steud.* Glabrous; leaves subcordate-deltoid or deeply 3-lobed: lobes lanceolate-oblong; peduncles 1–2(–"many")-flowered; *sepals orbicular or ovate-rounded,* subequal, one-third to one-fourth as long as the corolla-tube; *corolla* crimson: tube 2–3 times as long as the *repand limb;* ovary 2-celled below the summit.—*Chois. in Mém. Genève,* 8. *t.* 1.—Sepals $3'''$, whole corolla, when closed, $1\frac{1}{2}''$–$1''$ long.—Hab. Bahamas!, *Swains.*; [Portorico to S. Thomas!].

Sect. 9. Quamoclit, *T.*—*Sepals membranaceous. Corolla tubular-salvershaped: tube clavate. Anthers exserted. Ovary 4-celled, 4-ovulate: disk annular. Capsule 2–4-valved.*

36. **I. Quamoclit,** *L.* Glabrous; *leaves* subsessile, *pinnatipartite: segments filiform,* pointed, entire or the inferior 2-fid; peduncles 1–2-flowered; sepals ovate, blunt, mucronate, one-fourth as long as the corolla-tube, 2 exterior shorter; corolla crimson (or white): tube 3–4 times as long as the 5-lobed limb; capsule 4-celled: seeds compressed, glabrous.—*Desc. Fl.* 6. *t.* 415.—Quamoclit vulgaris, *Chois.*—Sepals $3'''$, corolla-tube $1''$ long.—Hab. Jamaica; S. Kitts!, Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; [Portorico! to Brazil!; Madeira!; East Indies!].

Sect. 10. Mina, *Llav.*—*Sepals membranaceous, mostly terminated by a herbaceous, filiform appendage. Corolla tubular-salvershaped: tube clavate. Anthers exserted. Ovary 4-celled, 4-ovulate, supported by a cupuliform disk. Capsule splitting into irregular valves.*

37. **I. coccinea,** *L.* Glabrescent; *leaves cordate-deltoid,* repand, or sinuate-dentate below, (rarely 3-lobed); cymes lax; sepals subequal, about one-sixth as long as the corolla-tube; appendage as long as the oval-subtruncate lamina; *corolla scarlet, variegated with orange,* (rarely wholly orange): tube thrice as long as the 5-lobed limb; capsule 4-celled: seeds 3-gonal, rugose, puberulous.—*Bot. Mag. t.* 221.—Quamoclit, *Mch.* I. luteola, *Jacq.* (*Ic. Rar. t.* 35): the orange-flowered form.—Sepals (the appendage included) $3'''$–$2\frac{1}{2}'''$ long.

α. Corolla-tube straightish, $12'''$–$15'''$ long.

β. *curviflora.* Corolla-tube curved, $18'''$–$15'''$ long.

Hab. Jamaica!, *March* (β); Antigua!, *Wullschl.* (α); naturalized in Trinidad!, *Cr.*, (α); [Virginia! to Peru!; East Indies! to the Cape!].

38. **I. hederæfolia,** *L.* Glabrous; *leaves cordate–3-lobed:* lobes deltoid, subentire; cymes lax; sepals subequal, one-sixth as long as the corolla-tube: appendage as long as the oval-subtruncate lamina; *corolla purple:* tube curved, 4 times as long as the repand limb; capsule 4-celled: seeds 3-gonal, rugose, puberulous.—*Bot. Mag. t.* 1769.—Quamoclit, *Chois.* I. sanguinea, *V.*—Perhaps a variety of the preceding; sepals $2'''$, corolla-tube $12'''$–$18'''$ long. —Hab. Jamaica!, *Dist.*; [Mexico! to Brazil!].

Sect. 11. PHARBITIS, *Chois.—Sepals herbaceous, acuminate. Corolla campanulate-infundibular. Anthers included. Ovary 4-ovulate, 3–4–2-celled, supported by a cupuliform or campanulate disk. Capsule splitting into valves.*

* *Disk cupuliform, one-half to one-third as long as the ovary.*

39. **I. cissoides,** *Gr.* Pilose; *leaves* 5–3-*partite: segments* elliptical, mucronate, dentate, *petiolulate;* peduncles 2–5-flowered: pedicels short; *sepals subulate, spreading,* exceeding half the corolla, *hispid below,* glandular above: ovate base one-half to one-third as long as the linear appendage; corolla white, campanulate at the base; disk cupuliform; *capsule* 4-*celled:* seeds 4, puberulous —Batatas, *Chois.* Convolvulus, *V.*—Habit of *Schizips,* but sepals green, spreading, as in *I. Nil;* sepals 8‴–10‴, corolla 1″ long.—HAB. Trinidad!, *Lockh.*, on dry banks; [Cuba to Brazil!].

40. **I. Nil,** *Rth.* Pilose; *leaves cordate–3-lobed:* lobes ovate, pointed, entire, the middle usually contracted at the base; peduncles 1–3-flowered; *sepals filiform above a lanceolate base, spreading,* ascending half the corolla-tube, *densely pilose below:* base about one-third as long as the narrow part; corolla blue above, (or purple), white below, gradually enlarged from the cylindrical base; disk cupuliform; *capsule* 3-*celled:* seeds 6 or fewer by abortion, glabrescent.—*Jacq. Ic. Rar. t.* 36.—Convolvulus, *L.* (*ex Dill. f.* 92). I. hederacea, *Jacq.*, *R. Br.* Pharbitis Nil, (*exclus. synon.*) *and* hederacea, *Chois.*—Sepals 8‴–10‴, corolla-tube 1″ long.—HAB. Jamaica!, *Macf.;* [United States! to Brazil!; trop. Africa!, Asia!, and Australia!].

41. **I. purpurea,** *Lam.* Branches pilose or glabrescent; *leaves cordate-roundish,* pointleted, *entire* or repand, glabrous; cymes few-flowered, contracted-umbelliform; *sepals lanceolate, adpressed, hispid below,* glabrous above, exceeding half the corolla-tube; corolla violet or purple, white below, (or white), gradually enlarged from the base; disk cupuliform; capsule 2(–" 3 ")-celled: seeds 4 or fewer by abortion, minutely puberulous.—*Dill. Elth. t.* 84. *f.* 97. *Bot. Mag. t.* 1682.—Convolvulus, *L.* Pharbitis hispida, *Chois.* I. glandulifera, *Macf.!*—Sepals 6‴–8‴, corolla-tube 1″ long; flowers nocturnal (*Macf.*).—HAB. Jamaica!, *Macf.*, *March;* [United States!; Cuba! to Venezuela!].

42. **I. villosa,** *R. P.* *Hoary-tomentose* or sericeous; *leaves cordate–3-lobed:* lobes entire, lateral roundish, middle acuminate; peduncles 1–3-flowered; *sepals ovate-oblong, adpressed,* villous, scarcely half as long as the corolla-tube; corolla dark-purple, variegated, gradually enlarged from the base; disk cupuliform; *ovary* 3-*celled,* 6-ovulate.—*R. P. Fl. Peruv. t.* 121. *B.*—Sepals 5‴, corolla-tube 1″ long.—HAB. Trinidad!, *Pd.*, *Cr.*, in savannahs along the eastern coast; [Peru].

43. **I. acuminata,** *R. S.* (*non R. P.*). Branches pilose or glabrescent; *leaves cordate–3-lobed:* lobes deltoid–ovate-entire; peduncles few–1-flowered; *sepals long, lanceolate-linear, adpressed,* puberulous or glabrescent, often hispid-ciliate at the base, half as long as the corolla-tube; corolla blue above, gradually enlarged above the cylindrical base; disk cupuliform, half as long as the ovary; ovary 3-celled, 6-ovulate.—*Bot. Reg. t.* 39.—Convolvulus, *V.* I. mutabilis, *Lindl.* (Pharbitis, *Chois.*).—Sepals 1″, corolla-tube 2″ long.—HAB. Jamaica!, *March;* [Cuba! to Brazil].

** *Disk campanulate, including the ovary.*

44. **I. cathartica,** *Poir.* Glabrous; leaves cordate–3-lobed (or cordate-roundish): lobes entire, repand, pointed, lateral ovate, middle oblong or elliptical-oblong; peduncles 1–2-flowered; *sepals ovate-lanceolate, long-acuminate, suberect, glabrous, half as long as the corolla-tube;* corolla blue or crimson, gradually enlarged from the base; disk campanulate, including the 3-celled, 6-ovulate ovary.—*Bot. Reg. t.* 999.—Pharbitis, *Chois.* Convolvulus pudibundus, *Lindl.* C. portoricensis, *Spreng.*—Sepals 8‴–10‴, corolla-tube 16‴–20‴ long.—HAB. Bahamas!, *Swains.;* Jamaica; S. Vincent; [Cuba and Mexico to Brazil!].

45. **I. jamaicensis,** *Don.* Sericeous-pubescent or glabrescent; leaves cordate–3-lobed or cordate-roundish, pointleted: lobes ovate, entire; peduncles 1–6-flowered: pedicels short; *sepals ovate-lanceolate, suberect,* pubescent or glabrous, *devoid of bristles, one-fourth as long as the corolla-tube;* corolla purple: tube cylindrical below, gradually and slightly enlarged above; disk campanulate, including the ovary; capsule 3-celled: seeds 6 or fewer

by abortion, pubescent.—*Sl. t.* 98. *f.* 2.—Convolvulus tomentosus, *L.* (Pharbitis, *Chois.*).—Sepals 5'''–8''', corolla-tube 2''–2½'' long.

a. Leaves sericeous or pubescent, chiefly beneath; calyx pubescent.

β. glabrata. Leaves glabrate or puberulous beneath; calyx glabrous.—*Desc. Fl.* 2. *t.* 137.

Hab. Jamaica!, *Macf.*, *Al.*, *Wullschl.*, *March* (α, β), in canefields; [Panama!].

3. JACQUEMONTIA, *Chois.*

Character of *Ipomœa*, but stigmas 2, distinct, oval or ovoid.—Twining herbs; cymes *long-peduncled; calyx herbaceous;* corolla *campanulate-infundibular;* anthers *included;* ovary *2-celled, 4-ovulate: no cupuliform* disk.

46. **J. tamnifolia,** *Gr.* Pilose; leaves subcordate-deltoid, repand-entire; *cymes* many-flowered, *contracted, bracteolate,* peduncled; *sepals linear-acuminate, hispid, exceeding or equalling the corolla;* corolla blue; stigmas ovoid; capsule 4-valved: seeds minutely scabrous.—*Dill. Elth. t.* 318. *f.* 410.—Ipomœa, *L.* Convolvulus, *Mey.!*—Sepals 6'''–4''', corolla 4''' long.—Hab. Nevis; Trinidad!, *Cr.;* [French islands!, in fields; southern United States! to Brazil!].

4. CONVOLVULUS, *L.*

Character of *Ipomœa,* but stigmas 2, diverging, filiform or clavate-oblong.—Corolla *campanulate-infundibular;* anthers *included;* ovary *2-celled, 4-ovulate.*

Sect. 1. Clavula.—*Stigmas clavate-oblong. Ovary devoid of a cupuliform disk.*—Stem herbaceous.

* *Cymes contracted, peduncled.*

47. **C. pentanthus,** *Jacq.* Twining, glabrous (or pubescent); *leaves cordate-ovate,* pointed, entire or repand; *cymes contracted, bracteate,* peduncled; *sepals* herbaceous, *half as long as the corolla,* hairy or glabrescent, devoid of bristles, 3–2 exterior larger, ovate, pointed, 2–3 interior ovate-lanceolate or lanceolate, acuminate; corolla violet, stellate; capsule 4-valved: seeds glabrous.—*Jacq. Ic. Rar. t.* 316. C. violaceous, *V.* (Jacquemontia, *Chois.:* but the stigmas exactly as in the other *Clavulæ*).—Hab. Jamaica!, *Dist.*, *Wils.*, *March*, *Wullschl.*, in hot, dry places; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sch.*, *Cr.;* [Cuba! and Mexico! to Peru!].

** *Peduncles 1-flowered or terminated by an umbelliform cyme.*

48. **C. ovalifolius,** *V.* Creeping or diffuse, glabrous (or "pubescent"); *leaves oval* or oval-roundish, emarginate or blunt, entire; *peduncles 1-few(-"7")-flowered; sepals* herbaceous, *half as long as the corolla,* glabrous, 3 exterior ovate, blunt, 2 interior ovate-lanceolate, pointed; corolla small, blue; capsule 2–4-valved: seeds glabrescent, roughish, margined.—Ipomœa, *Chois.?:* but stigmas of the preceding.—Sepals 2''', corolla 4''' long; seeds black.—Hab. Antigua!, *Wullschl.;* [trop. Africa].

*** *Pedicels fascicled: peduncle short or none.*

49. **C. micranthus,** *R. S.* Twining, pubescent; *leaves cordate-oblong,* mucronate-bluntish, repand or sinuate; pedicels fascicled, as long as the short petiole; *sepals* herbaceous, ovate-lanceolate, pointed, *little exceeded by the corolla,* subequal; corolla minute, purple: limb 5-fid; capsule 4-valved: seeds glabrous, rugulose, margined.—*Plum. Ed. Burm. t.* 94. *f.* 2.—Jacquemontia, *Don.* C. polycarpus, *Kth.*—Sepals 1½''', corolla 2''' long; seeds yellowish-brown.—Hab. Jamaica!, *Macf.*, *Dist.*, *March*, *Wullschl.;* S. Vincent!, *Guild.;* Trinidad!, *Lockh.*, *Sch.;* [Cuba! to Brazil!].

50. **C. jamaicensis,** *Jacq.* Twining, glabrescent; *leaves lanceolate-linear* (or oblong-lanceolate), bluntly mucronate, entire, shortly petioled; pedicels fascicled: peduncle usually exceeding the petiole; *sepals* small, membranaceous, *one-fourth as long as the corolla,* pointed, 2 exterior ovate-lanceolate, 3 interior roundish; corolla pale-purple or white: limb 5-fid; capsule 4–8-valved: seeds minutely scabrous, margined with narrow wings.—

Sl. t. 130. *f.* 1 : the form with broader leaves.—Sepals 1‴–1½‴, at length 2‴, corolla 6‴ long.—HAB. Bahamas !, *Swains.*; Jamaica !, *Dist.*, *Wat.*, *Pd.*, *Wils.*, *March*, in savannahs and along the coast; [Haiti !, Portorico !].

Sect. 2. STROPHOCAULOS, *Don.—Stigmas filiform.*—Stem herbaceous, twining; ovary in our species supported by a cupuliform disk.

51. **C. nodiflorus**, *Desc.* Pubescent or tomentose; *leaves ovate*, mucronate, repand or entire; *pedicels fascicled:* peduncle short; *sepals* small, membranaceous, *ovate-roundish, blunt, one-sixth as long as the corolla,* subequal; corolla white: limb repand; capsule 8–4-valved: seeds glabrous, rugulose, margined with a narrow wing.—Allied to the preceding, but stigmas filiform, as in *C. arvensis.* Sepals 1‴, corolla 6‴ long.—HAB. Jamaica !, *Al.*, *March*; Trinidad !, *Cr.*; [Cuba ! to Brazil].

5. EVOLVULUS, *L.*

Calyx 5-leaved. *Corolla* rotate-infundibular. *Ovary* 2-celled, 4-ovulate: styles 2, distinct, 2-partite. *Capsule* 4–2-valved: valves seceding from the dissepiment.—Stem *not twining;* leaves *entire;* peduncles *axillary, rarely paniculate, 1-few-flowered, 2-bracteolate, below the summit;* seeds *glabrous.*

52. **E. arbuscula,** *Poir.* *Dwarfish-shrubby,* slender, branched, sericeous; *leaves small, sessile,* lanceolate, pointed; peduncles 1-flowered, racemose; sepals elliptical-lanceolate, one-half to one-third as long as the bright-blue corolla.—*Bot. Mag. t.* 4202.—E. purpuro-cæruleus, *Hook.!* E. canus, *Spreng.! in Pl. Berter.*—1′–2′ high: stem ⅓‴–1‴ thick; leaves 1‴–2½‴, sepals 1‴, corolla 2‴–3‴ long.—HAB. Bahamas !, *Swains.*; Jamaica !, *Pd.*, on arid, maritime rocks, Manchester; [Cuba !, Haiti !].

53. **E. sericeus,** *Sw.* Herbaceous, cæspitose, sericeous; *leaves subsessile, lanceolate-linear* or lanceolate, acuminate or mucronulate; *peduncles* 1-flowered, *much exceeded* by the leaves (rarely equalling them); *sepals ovate-lanceolate, acuminate, little exceeded by the* white or pale-blue *corolla.*—*Sl. t.* 99. *f.* 3. *Br. Jam. t.* 10. *f.* 3.—Spithameous; leaves 6‴–10‴, sepals 1½‴–2‴, corolla 2‴–3‴ long.—HAB. Bahamas !, *Swains.*; Jamaica !, *Wullschl.*, in arid sand; Antigua !, *Wullschl.*; Trinidad !, *Lockh.*; [Haiti !; Texas ! to Montevideo].

54. **E. linifolius,** *L.* Annual, pilose; *leaves subsessile, lanceolate* (or oblong-lanceolate), pointed; *peduncles* filiform, 1(–"3")-flowered, inflexed above the bracts, *twice as long as the leaves; sepals lanceolate-acuminate, little exceeded by the* pale-blue or white *corolla.*—*Br. Jam. t.* 10. *f.* 2.—1′ high; leaves 12‴–4‴, sepals 1½‴–1‴, corolla 2‴–1½‴ long.—HAB. Bahamas !, *Swains.*; Jamaica !, *M'Nab, Pd., Wullschl*, in arid pastures; [Mexico ! to Venezuela !; trop. Africa !, Asia ! and Australia !].

55. **E. alsinoides,** *L.* Suffrutescent, diffuse, pilose, sericeous or glabrescent; *leaves shortly petioled,* oblong-lanceolate, elliptical-oblong, or lanceolate; peduncles 3–1(–5)-flowered; *sepals ovate-lanceolate, acuminate, half as long as the corolla.*—Very variable; sepals 1½‴–1‴, corolla 3‴–2‴ long.—HAB. Trinidad !, *Lockh.*, *Cr.*; [all tropical countries].

56. **E. villosus,** *R. P.* Herbaceous, pilose; *leaves shortly petioled,* ovate-lanceolate, acuminate; peduncles filiform, 3–1-flowered; *sepals lanceolate-acuminate, half as long as the* blue *corolla.*—*R. P. Fl. Peruv. t.* 253. *B.*—Sepals 1½‴–2‴, corolla 3‴–4‴ long.—HAB. S. Kitts !; [Mexico to Peru].

57. **E. mucronatus,** *Sw.* Procumbent, cæspitose, sericeous-glabrescent; *leaves shortly petioled, oval,* oval-roundish or lanceolate-elliptical, mucronate; peduncles 1–3-flowered; *sepals ovate-lanceolate, pointed,* or shortly acuminate, *one-third as long as the* white or pale-blue *corolla.*—E. glabriusculus, *Chois.* (*ex specim. Berter.*).—Sepals 1‴–1½‴, corolla 3‴–4‴ long.—HAB. Bahamas !, *Hjalmars.*, Turk islands; Jamaica !, *Bancr.*, *March*; Antigua !, *Wullschl.*, S. Vincent !, *Guild.*; [Portorico ! to Peru].

58. **E. nummularius,** *L.* Procumbent, diffuse, glabrescent or pilose; *leaves petioled, orbicular* or oval-orbicular, subcordate at the base, rounded or retuse at the top; peduncles 1-flowered, exceeded by the small leaves; *sepals oblong, bluntish, half as long as the* white

or pale-blue *corolla*.—*Sl. t.* 99. *f.* 2. *Jacq Amer. Pict. t.* 260. *f.* 23. *Kth. N. Gen. t.* 215 —E. veronicifolius, *Kth.*—Leaves 2‴-4‴(-5‴), sepals 1‴, corolla 2‴ long.—Hab. Jamaica !, *Pd.*, *Bancr.*, common in pastures : Antigua !, *Wullschl.* ; [Cuba ! and Mexico ! to Brazil !].

6. DICHONDRA, *Forst.*

Calyx 5-leaved. *Corolla* campanulate-rotate : limb 5-partite. *Ovaries* 2, 2-ovulate : styles 2, distinct, simple, suprabasilar. *Carpids* 1-seeded, indehiscent, slightly connected at the base by the then 2-partite style.—Procumbent, rooting herbs ; leaves *long-petioled ;* peduncles 1-*flowered, ebracteolate.*

59. **D. repens,** *Forst. ! Leaves* cordate-orbicular, repand, *pubescent* or glabrescent above ; *sepals* oblong or spathulate-oblong, bluntish, *nearly as long as the corolla*, exceeded by the carpids.—*Sm. Ic. Ined. t.* 8.—Leaves 6‴-2‴, calyx 1‴ long ; corolla yellowish-white.—Hab. Jamaica !, *Al.*, *Wils.*, a weed ; [United States ! to Patagonia ! ; East Indies !, and whole southern temperate zone !].

60. **D. sericea,** *Sw. Leaves* cordate-orbicular, repand, *silvery-sericeous beneath ; sepals* obovate, blunt, *exceeding the corolla*, equalling the carpids.—*Sw. Ic. Ind. occ. t.* 10. —Leaves 12‴-4‴, calyx 1‴ long ; corolla white, with purple lines.—Hab. Jamaica !, *March*, in mountain-pastures ; [Mexico ! to Peru].

7. CUSCUTA, *L.*

Calyx 5(-4)-fid or -partite. *Corolla* shortly campanulate or rotate, marcescent : limb 5(-4)-partite, imbricative. *Ovary* 2-celled : cells 2-ovulate. *Capsule* circumscissile, rarely baccate. *Embryo* undivided, spiral.—Twining, leafless parasites ; flowers *clustered or cymose.*

Sect. Grammica, *Lour.*, *Engelm.*—*Styles* 2, *distinct, often unequal : stigma capitate.*

61. **C. americana,** *L.* Flowers clustered : pedicels shorter than the flower ; *calyx ventricose*, little exceeded by the corolla : lobes short, rounded ; *corolla campanulate*, 5-dentate : *teeth* roundish, *blunt, erect :* scales small, included ; capsule globose, irregularly circumscissile.—*Sl. t.* 128. *f.* 4.—Flowers greenish-yellow.—Hab. Jamaica !, *Wils.*, on shrubs ; Antigua !, *Wullschl.*, S. Vincent !, *Guild.* ; [Cuba ! and Mexico ! to Brazil !].

62. **C. umbellata,** *Kth.* " Flowers fascicled : pedicels usually longer than the flower ; calyx broadly campanulate, equalling or exceeding the corolla-tube : lobes deltoid , *corolla rotate*, 5-fid : *lobes narrowly lanceolate, acute :* scales prominent ; capsule globose, circumscissile, or irregularly rupturing."—Hab. Jamaica (*Engelm.*), on low herbs ; [New Mexico to Brazil].

63. **C. obtusiflora,** *Kth.* Flowers fascicled : pedicels about as long as the flower ; *calyx as long as the corolla-tube :* lobes bluntly deltoid ; *corolla campanulate-rotate*, often glandular-dotted : *lobes ovate blunt*, reflexed, nearly as long as the tube : scales prominent ; " capsule depressed-globose, exserted, baccate."—Stem orange-coloured.—Hab. Bahamas !, *Swains.* ; Jamaica !, *March* ; [Florida ! to Peru].

64. **C. indecora,** *Chois.* Flowers fascicled : pedicels about as long as the flower ; *calyx exceeded by the corolla-tube :* lobes deltoid ; *corolla* fleshy, *campanulate : lobes deltoid*, erect or spreading, *inflexed at the acute point :* scales prominent ; " capsule conical, enclosed by the corolla, baccate."—C. decora, *Engelm. !* (neuropetala, *Engelm.*).—Flowers white.—Hab. Jamaica !, *Macf.*, *Bancr.* ; [Illinois ! to Buenos Ayres !].

CXVIII. HYDROLEACEÆ.

Stamens 5, inserted into the sympetalous, imbricative corolla. *Ovary* superior : placentas many-ovulate, cohering or contiguous in the axis : styles 2(-3), distinct. *Seeds* albuminous : embryo axile.—Leaves *alternate, exstipulate.*

1. HYDROLEA, *L.*

Calyx 5-partite. *Corolla* rotate. *Stamens* exserted. *Capsule* 2(–3)-celled; marginicide valves seceding from the entire dissepiment: placentas central, thickish.—Flowers *blue, racemose, oblique in the axils of the bracts.*

1. **H. spinosa,** *L.* *Shrubby, glandular-pilose;* leaves elliptical-lanceolate or lanceolate, repand-entire: axils bearing usually a pubescent spine: racemes usually short, compound; corolla-segments elliptical, shortly exceeding the calyx; capsule ovoid-globose, glabrescent, 2–3-celled.—*Aubl. t.* 110.—H. trigyna, *Sw.*—4′ high; corolla fragrant, 8‴ diam.—HAB. Jamaica!, *Pd.*, *Dist.*, *Wullschl.*, rare in swamps and floating islands, S. Elizabeth, Manchester; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Lockh.*, *Cr.*, in moist savannahs; [Mexico! to Brazil!].

2. NAMA, *L.*

Calyx 5-partite. *Corolla* infundibular. *Stamens* included. *Capsule* medianicide, at length 4-valved by the valves seceding from the placentas: placentas 2, parietal, contiguous in the axis: seeds dorsal on their revolute margin.—Herbs; flowers *obliquely deflexed, fascicled in the axils and between the branches, rarely cymose.*

2. **N. jamaicensis,** *L.* Annual, procumbent, hispidulous; *leaves* obovate, contracted at the base, *decurrent,* entire; pedicels shorter than the calyx, fascicled(-single); *calyx-segments linear-acuminate,* shortly exceeded by the white, tubular-infundibular corolla, including the oblong-linear capsule.—*Br. Jam. t.* 18. *f.* 2.—Calyx 4‴ long.—HAB. Jamaica!, *Bancr.*, *Al.*, a weed; [Cuba!, Haiti!; Texas!, Mexico!].

3. WIGANDIA, *Kth.*

Calyx 5-partite. *Corolla* rotate. *Stamens* exserted. *Capsule* medianicide, 2-valved: placentas 2, parietal, adhering to the middle line of the valves, contiguous in the axis, the revolute margins entirely covered with seeds.—Hispid, large-leaved herbs; flowers *in gyrate, 2-bracteate, branched, spiciform racemes.*

This genus, by its inflorescence, approaches *Hydrophylleæ*, from which it is distinguished by its 2, distinct styles.

3. **W. urens,** *Kth.* *Leaves ovate, blunt, subcordate at the base, duplicate-crenate* or minutely lobed, scabrous-pubescent above, villous beneath; panicle hispid: flowers 2-serial along its conjugate branches; calyx-segments linear, equalling the corolla-tube, including the ovoid, hispid capsule.—*R. P. Fl. Peruv. t.* 243. *Bot. Mag. t.* 4575.—Hydrolea, *R. P.* W. Kunthii, *Chois.* W. caracasana, *Hook.!*—Corolla 1″ diam.—HAB. Trinidad!, *Pd.*, *Cr.*, in arid places, on the island of Monos; [Mexico, Venezuela!, Peru].

CXIX. BORAGINEÆ.

Stamens usually 5, inserted into the sympetalous, mostly imbricative corolla. *Ovary* superior, 2-carpellary, 4-celled: ovules single in each cell, pendulous. *Seeds* exalbuminous, rarely furnished with thin albumen.—Leaves *mostly alternate, exstipulate, often rough;* flowers *usually gyrate, ebracteate.*

This Order is mucilaginous, and yields emollient drugs, e. g. *Cordia globosa.* The drupes of *Beureria*, *Ehretia*, and some *Cordiæ*, e. g. *C. alba*, are eatable. Several *Cordiæ*, e. g. *C. gerascanthus*, *C. gerascanthoides* (Spanish elm, or prince-wood) are reputed timber-trees.

1. CORDIA, *L.*

Calyx tubular, often closed in the bud. *Corolla* infundibular or salver-shaped. *Style* twice bifid. *Drupe* 4–1-celled. *Cotyledons* corrugate.—Woody plants; flowers *in expanded or contracted cymes, sometimes polygamous.*

Sect. 1. GERASCANTHUS, *P. Br.*—*Calyx* 10-*costate*, 5–3-*dentate*. *Corolla marcescent, dextrorsely contorted with the inner margin plaited.*—Corolla brown in the marcescent state.

1. **C. gerascanthus,** *Jacq.* Down minute, stellate; leaves oblong-lanceolate or elliptical-oblong, pointed, entire; panicle expanded: ultimate flowers glomerate; *calyx* clavate-cylindrical, *hoary-tomentose with stellate down*: teeth 5, minute, equal; *corolla* white, salver-shaped: *limb* 5-*partite*, as long as (or half as long as) the tube: *lobes spathulate-oblong*; stamens long-exserted, inserted near the throat.—*Jacq. Amer. Pict. t.* 259. *f.* 12: the flower. *Rich. Cub. t.* 59 *bis.*—C. gerascanthoides, *Rich.* (*non Kth.*).—Variable in the size and proportions of the flower, and in the leaves glabrescent or stellato-pubescent beneath: more hairy forms, comprising probably several so-called species, occur in South America. A tree, 30′ high; leaves 3″–6″, calyx 2‴–4‴ long; corolla-lobes 3‴(–1½‴) long.—HAB. Jamaica!, *Wils.*, rare; Antigua!, *Nichols.*, Dominica!, *Imr.*, S. Vincent!, *Anders.*, Trinidad!, *Sieb. Tr.* 121, *Cr.*, common in dry localities; [Cuba! and Guatemala! to Brazil].

2. **C. gerascanthoides,** *Kth.* Leaves oblong-lanceolate or ovate-oblong, entire, glabrous; panicle many-flowered: ultimate flowers fascicled-glomerate; *calyx* campanulate-cylindrical, *with simple down, hirsute or rusty-pubescent or glabrescent*: teeth 3–5, unequal, deltoid; *corolla* white, infundibular, 5-*fid, little beyond the middle of the exserted part of the tube: lobes obovate*, subretuse; stamens shortly exserted, inserted below the middle of the corolla-tube.—*Br. Jam. t.* 29. *f.* 3: the flower.—C. gerascanthus, *Sw.* (*non Jacq.*). C. tinifolia, *W.*—A tree, 20′–30′ high; leaves 3″–8″, calyx 4‴–5‴, corolla 8‴–10‴ long: its lobes 3‴–4‴ long.—HAB. Jamaica!, all coll., common in the lowlands and mountains; [Cuba!; Mexico!].

Sect. 2. VARRONIA, *DC.*—*Calyx* 10–12-*costate, irregularly circumscissile below the closed top. Corolla plaited-imbricative, deciduous.*

3. **C. alba,** *R. S.* Scabrous or glabrescent; leaves elliptical-roundish, dentate-repand, concolor; panicle corymbiform: ultimate flowers subsessile; *corolla* whitish, infundibular, *shortly* 5-*lobed*, thrice as long as the turbinate calyx: *lobes emarginate-roundish*; drupe ellipsoidal, white.—*Deless. Ic.* 5. *t.* 97. *Desc. Fl.* 7. *t.* 529.—Varronia, *Jacq.* V. calyptrata, *DC.* C. dentata, *V.!* C. calyptrata, *Berter.!*—A tree, 30′ high; leaves variable, 2″–4″, corolla 6‴, drupe 5‴–8‴ long.—HAB. Jamaica!, *March*; Antigua!, *Wullschl.*; [Cuba! and Mexico! to New Granada! and Venezuela!].

Sect. 3. SEBESTENA, *Dill.*—*Calyx smooth, rupturing at the closed top, enlarged and often "fleshy" around the drupe. Corolla large, imbricative, deciduous: tube exserted.*

The character of the calyx growing fleshy is taken from Jacquin, but is not universal, as is shown by ripe drupes of the *Cordia* which yields the Anacuito-wood of Mexico (probably *C. dodecandra, DC.*)

4. **C. Sebestena,** *Jacq.* Scabrous; leaves ovate, subentire; cyme corymbiform: flowers pedicellate; *calyx* cylindrical, rusty-scabrous, unequally 3–5-dentate, *about half as long as the cylindrical corolla-tube*; *corolla tawny-scarlet*, salver-shaped: limb 6(5–8)-fid, lobes ovate-roundish; drupe ovate-subglobose, bluntly pointleted.—*Sl. t.* 164. *Catesb.* 2. *t.* 91. *Jacq. Amer. Pict. t.* 44. *Desc. Fl.* 4. *t.* 277.—C. speciosa, *W.*—A shrub, 8′–12′ high; leaves 5″–8″, calyx 8‴–6‴ long; diameter of the corolla-limb 1″–2″, of the white fruit 8‴–12‴.—HAB. Bahamas!, *Swains.*; Jamaica!, *Dist.*, *Wat.*, Port Royal; S. Kitts!, Antigua!, *Wullschl.*, Barbadoes; Trinidad!, *Cr.*; [Cuba! to Guiana! and New Granada].

Sect. 4. MYXA, *Endl.*—*Calyx rupturing at the closed top or regularly* 5–4-*dentate. Corolla imbricative, deciduous: tube usually equalling the calyx.*

* *Cymes or panicles corymbiform.*

5. **C. Collococca,** *L.* (*ex Sl.*). Glabrescent; *leaves* obovate-oblong or elliptical, *repand-entire*, glabrous above, *puberulous beneath*; cymes corymbiform, rusty-pubescent: *flowers subsessile* or very shortly pedicellate by the calyx being contracted at the base; *calyx globose, pubescent*, smooth, at length 3–5-dentate; *corolla* white: *lobes* elliptical,

bluntish, *about as long as the tube*, reflexed; drupe globose.—*Sl. t.* 203. *f.* 2.—C. micrantha, *Sw. ex specim. Rohr.* Ehretia dubia, *Jacq.?*—A tree or shrub: branches whitish; leaves deciduous at the time of flowering, 2″-6″ long, mostly tapering at the base, membranaceous, at length leathery, shining above; calyx 1½‴-1‴ long; corolla-limb 3‴, purple drupe 3‴-4‴ diam.—HAB. Jamaica!, *Macf.*, *Dist.*, *March*, *Wullschl.*, in the lowlands; Antigua!, *Wullsch.*, Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 238; [Cuba! to Venezuela!].

6. **C. nitida,** *V.! (ap. West).* Nearly glabrous; *leaves* elliptical (or spathulate-lanceolate), *repand-entire, glabrous;* cymes corymbiform, slightly puberulous: *flowers pedicellate; calyx globose, glabrous* or early glabrate, smooth, at length 5-3-fid; *corolla-lobes* roundish, *longer than the tube,* expanded; drupe depressed-globose.—C. Collococca, *Sw.* C. ehretioides, *Lam. in H. Hook.*, but Lamarck's short description agrees better with the preceding.—Nearly allied to *C. Collococca,* but flowers larger, and longer pedicellate. Leaves 2″-5″ long, papery, at length shining-leathery, usually blunt; calyx 2‴ long; corolla-limb 6‴, drupe 3‴-4‴ diam.—HAB. Jamaica!, *Macf.*, *Dist.*, *Al.*, *Wils*, *Wullschl.*, in woods, Blue Mountains, Manchester, Mammee Bay; [Haiti!, S. Jean!, S. Croix!].

7. **C. elliptica,** *Sw.* Glabrescent; *leaves* ovate or ovate-oblong, shortly pointleted, *entire, glabrous, or glabrate beneath;* cymes corymbiform, rusty-puberulous: ultimate *flowers subsessile,* gyrate; *calyx obovate, glabrate,* smooth, 5-2-dentate; *corolla* white: *lobes* ovate-oblong, *half as long as the tube,* recurved; *drupe globose with a conical point.*—A large tree; leaves 3″-8″ long, chartaceous, shining above, rounded at the base: veins prominent beneath, the primary ones often immersed above; calyx 3‴, drupe 4‴-5‴ long; corolla odorous.—HAB. Jamaica!, *Macf.*, *Al.*, *Wils.*, *March*, in mountain-woods, Mt. Diable, Manchester; [Haiti!].

8. **C. reticulata,** *V.!* Glabrescent; *leaves* ovate, pointleted, *entire, glabrous,* reticulated-veiny on both sides; cymes corymbiform, rusty-velvety: flowers gyrate, ultimate subsessile or very shortly pedicellate; *calyx clavate, rusty-sericeous,* smooth, 5-2-dentate; *corolla-lobes* ovate-oblong, blunt, *one-third to one-fourth as long as the tube,* recurved; *drupe ovate with an obtusate point.*—Dasyura tenax, *Moritz. Pl. Venez.*—A tree; leaves 4″-8″ long, chartaceous, at length shining-leathery, rounded at the base; calyx 4‴-5‴, drupe 6‴-8‴ long.—HAB. Montserrat!, *Ryan*, Dominica!, *Imr.;* [Venezuela!].

9. **C. lævigata,** *Lam.* Glabrescent; *leaves* elliptical, mucronate, *entire, glabrous,* reticulated-veiny on both sides; cymes corymbiform, rusty-puberulous: flowers shortly gyrate, ultimate subsessile; *calyx ellipsoidal, puberulous, striate,* 3-5-dentate; *corolla-lobes* ovate, *one-third as long as the tube,* recurved; *drupe ovate-conical, mucronate.*—C. elliptica, *Sieb. Mart.* 53.—Leaves rigid-leathery, 1½″-2½″ long, subacute at the base; calyx 3‴, drupe 6‴ long.—HAB. Trinidad!, *Pd.;* [Haiti to Martinique!].

10. **C. tremula,** *Gr.* (*n. sp.*). Glabrous; *leaves* oval-roundish, remotely *repand-crenate* above, long-petioled; cymes lax, corymbiform, glabrescent: *flowers* shortly gyrate, distant, *pedicellate; calyx obovate, glabrous,* sericeous within, smooth, 5-3-dentate, *corolla-lobes* spathulate-oblong, *as long as the tube,* recurved; stamens included.—Leaves chartaceous, penninerved, 2½″-3½″ long, 2″-2½″ broad: petiole 1″-2″, pedicels 1‴-2‴ long; calyx 3‴ long, about 2‴ broad: teeth small, roundish; corolla 4‴ long: branches of the deeply 4-fid style exserted; anthers cordate-oblong, recurved: filaments short, hairy at the base.—HAB. Barbadoes!, *Lane.*

11. **C. panicularis,** *Rudg. Wholly scabrous-puberulous; leaves* ovate or oblong, pointleted, *repand-entire;* cymes corymbiform or expanded: flowers shortly gyrate, sessile; *calyx obovate, sericeous,* smooth, 5-3-dentate; *corolla-lobes* ovate, rounded, *half as long as the tube,* recurved; stamens exserted.—*Rudge Guian. t.* 46.—C. scabrifolia, *DC. in Pl. Spruce.*—A tree; leaves 7″-3″ long, usually pale beneath, chartaceous: petiole 2‴-4‴, calyx 2‴ long.—HAB. Trinidad!, *Cr.;* [Guiana, equat. Brazil!].

12. **C. macrophylla,** *Mill.* (*non V.*). Branchlets rusty-villous; *leaves large,* ovate or ovate-oblong, pointed, subcordate at the base, *repand-entire,* scabrous-pubescent above, *villous-pubescent* and reticulated-veiny *beneath;* panicle expanded: flowers shortly gyrate, approximate, sessile; *calyx obovate-globose, rusty-villous,* smooth, 3-5-dentate: corolla-lobes ovate-oblong, blunt, one-third as long as the tube; stamens exserted; *drupe ovate-conical, pointed.*—*Sl. t.* 221. *f.* 1.—A large tree, confounded with the following, which has

a narrower calyx and different drupes; leaves 18″–6″, petiole 6‴–8‴, calyx 2‴, reddish (*Sl.*) drupes 5‴ long.—HAB. Jamaica!, *Al.*, *March*, in all inland woods.

13. **C. sulcata,** *DC.* Branchlets sulcate, rusty-villous; *leaves large,* ovate-oblong or ovate, pointed, subcordate or rounded at the base, *repand-entire,* strigulose-scabrous above, *rusty-sericeous, at length tomentose-pubescent* on the prominent network of veins *beneath;* panicle expanded: flowers shortly gyrate, approximate, sessile; *calyx obovate, rusty-pubescent,* smooth, 3–6-dentate; corolla-lobes ovate-oblong, blunt, half as long as the tube; stamens short; *drupe globose, mucronate.*—C. macrophylla, *V.!* C. Toqueve, *Sieb. Mart.* 59.!—A high tree; leaves 12″–4″, petiole 6‴–2‴, calyx 2‴, white drupes 2½‴–3‴ diam.—HAB. Jamaica!, *Macf.;* Antigua!, *Wullschl.*, Dominica!, *Finl.*, *Imr.*, S. Lucia!, *Anders.;* [Cuba! to French islands!].

14. **C. salvifolia,** *DC.* Branchlets scabrous; *leaves* ovate-lanceolate (or ovate), acuminate with a bluntish point, *serrate* above the base, *hispid-tubercled above* with the hairs thickened at the base, pubescent or velvety beneath; terminal cyme corymbiform: flowers shortly gyrate, approximate, sessile; *calyx obovate-globose, hoary strigose,* 4(-5)-dentate, *half as long as the corolla-tube;* corolla-lobes 4–5, roundish, one-fourth as long as the tube, recurved; stamens short, pilose below; drupe ovoid-globose, almost included by the calyx.—C. Berterii, *Spreng. in Pl. Berter.* Varronia curassavica, *Berter.!*—A shrub; leaves 4″–2″ (-6″), calyx 1‴–1½‴, red drupe 2‴ long.—HAB. Antigua!, *Wullschl.;* [Haiti!, Guadeloupe!, in calcareous hills].

** *Flowers glomerate: peduncles axillary or divided.*

15. **C. ulmifolia,** *Juss.* Branchlets pubescent or velvety; *leaves* ovate or ovate-lanceolate, acuminate, *sharply serrulate* above the base, scabrous above, velvety or pubescent beneath; *glomerules peduncled: peduncles* axillary, *adnate to the petiole at the base,* or racemose; calyx ovoid, strigose, 5-dentate, half as long as the infundibular, 5-crenate corolla; stamens glabrous, subincluded; drupe small, ovate, blunt, almost included by the calyx.—*Sl. t.* 194. *f.* 3 —Varronia lineata, *L.* (*non Sw.*). V. monosperma, *Jacq.*, *Sieb. Mart.* 61. C. Salzmanni, *DC. in Pl. Spruce.* C. patens, *Miq.* (*non Kth.*).—Variable in the down, the leaves, the number of their serratures, and the inflorescence. A shrub, 6′–15′ high; leaves 2″-4″, calyx 1½‴ long; size of the long-peduncled glomerules usually like a pea.—HAB. Jamaica!, *Wils.*, common, in rocky soil; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 185; [Cuba! and Panama! to Brazil! and Peru!].

*** *Flowers sessile in a single spike, centrifugal.*

16. **C. cylindristachya,** *R. S.* Scabrous; leaves oblong-lanceolate or lanceolate, serrate or serrulate-repand, pubescent or hoary with minute down beneath: petiole jointed at the base; *spikes terminal; calyx globose or obovate-globose: teeth deltoid;* corolla infundibular, twice as long as the calyx: lobes short, roundish; drupe ovoid, ovate or subglobose.—*R. P. Fl. Peruv. t.* 147. *a.*—Varronia macrostachya, *R. P.* V. curassavica, *Sw.* (*non Jacq.*): *Cordia Fresen.* (*non R. S.*).—A shrub, 4′–6′ high; leaves 2″–3″, calyx 1‴ long; drupe red.

α. Spike contiguous; calyx adpressed-pubescent; drupe ovate-subglobose, blunt, subincluded. C. portoricensis, *Spreng.*

β. floribunda, Spreng. Spike contiguous; calyx hirsute with spreading down; drupe ovate, mucronulate-truncate, subincluded.—C. salvifolia, *Kth.* (*non DC.*).

γ. interrupta, DC. Spike slender, often interrupted at the base; calyx glabrescent; drupe ovate, mucronate-truncate, exserted.—C. martinicensis, *Sieb. Tr.* 42. (*non R. S.*).

δ. graveolens, Kth., *Benth. Pl. Spruce.* Spike slender, often interrupted; calyx slightly adpressed-puberulous; drupe globose, included.—C. bahiensis, *DC.!:* a less hairy form.

ε. cinerascens, DC. Spike slender, often interrupted; calyx pubescent; drupe ovate-subglobose, blunt, shortly exserted.

HAB. Jamaica!, all coll. (*α* very common; *β, δ, ε*); Dominica!, *Imr.* (*ε*), S. Vincent!, *Guild.*, (*γ*); Trinidad!, *Sieb.*, *Lockh.* (*γ*); [Lower California! to Uruguay!].

17. **C. martinicensis,** *R. S.* Scabrous; leaves ovate, acuminate, serrate, pubescent beneath: petiole jointed at the base; *spikes terminal,* contiguous; *calyx obovoid-globose,* pubescent: *teeth subulate, distinct from the beginning;* corolla infundibular, shortly

exserted: lobes short, rounded; drupe subglobose, included by the calyx.—*Jacq. Amer. Pict. t.* 42.—Varronia, *Jacq.*—A shrub, 6′ high; leaves 3″–5″, calyx 2‴ long.—HAB. Jamaica!, *Wright;* S. Lucia!, *Anders.;* Trinidad!, *Sch.;* [S. Croix!, Martinique!, *Sieb. Mart.* 60].

**** *Flowers in simple heads; calyx-teeth distinct from the beginning.*

18. **C. globosa,** *Kth.* Hispid; leaves ovate or ovate-lanceolate, bluntish, obtusely serrate; *heads globose,* peduncled; *calyx* 5-*fid: lobes subulate-filiform,* flexuose, hispid, *as long as the strigose tube;* corolla infundibular, twice as long as the calyx: lobes very short; drupe ovate-obtusate, shortly exserted.—*Br. Jam. t.* 13. *f.* 2.—Varronia, *L.* V. bullata, *Sw.* (*non Jacq.*). V. humilis, *Jacq.* (V. lineata, *Sw.*): the form with short peduncles, figured by P. Br. C. bullata, *DC.* (*exclus. syn. Sieb.*).—A shrub, 6′–10′ high; leaves 2″–1″, white corolla 2‴, red drupe 2‴ long.—HAB. Jamaica!, all coll., in dry soil along the coast; [Cuba! to French islands; Mexico!, Panama!].

19. **C. dasycephala,** *Kth.* Hispid; leaves ovate, acuminate, sharply serrate; *heads globose,* peduncled; *calyx* 5-*fid: lobes filiform to the base,* flexuose, long-hispid-ciliate, *twice as long as the pilose or glabrescent,* connivent *tube;* corolla infundibular, twice as long as the calyx-tube: lobes very short; drupe subglobose, subincluded.—Varronia, *Desv.*—A shrub; leaves 4″–2″, calyx-tube 1‴, corolla 2‴ long; heads 6‴ diam.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb. Tr.* 242; [Venezuela!, Guiana!].

20. **C. lima,** *R. S.* Branchlets hispid; leaves elliptical, lanceolate-oblong or lanceolate, subentire or few-serrate, hispid above, pilose along the veins beneath; *heads small, globose,* peduncled; *calyx* 5-*dentate,* pubescent: *teeth blunt,* deltoid or shortly oblong, erect, *one-third as long as the* turbinate-globose *tube;* corolla infundibular, shortly exserted: lobes roundish; drupe subglobose, included.—C. Radula, *Spreng.* C. asperrima, *DC.?*—A shrub; leaves 10‴–30‴, calyx 1‴ long.—HAB. Bahamas!, *Swains.;* [Haiti].

2. EHRETIA, *L.*

Calyx 5-fid, imbricative. *Corolla* rotate or salver-shaped. *Stamens* exserted. *Style* 2-fid. *Drupe* 2-pyrenous: pyrenæ 2-celled.—Woody plants; flowers *in a terminal panicle.*

21. **E. tinifolia,** *L.* Arboreous, glabrous; leaves elliptical-oblong, obovate (or obovate-roundish), entire; corolla rotate.—*Sl. t.* 203. *f.* 1. *Br. Jam. t.* 16. *f.* 1.—A tree, often of large size; leaves 3″–6″, calyx ½‴ long; corolla white, 3‴–4‴, drupe 2‴–3‴ diam., the latter yellow, at last black.—HAB. Jamaica!, all coll., common in the lowlands; [Cuba! to Swedish islands; Mexico!, Yucatan!].

3. BEURERIA, *P. Br.* (*p.* 492), *Jacq.*

Calyx closed in the bud, 5–2-valved: teeth or lobes valvate. *Corolla* salver-shaped. *Stamens* exserted. *Style* 2-fid. *Fruit* drupaceous, 4-pyrenous, rarely dry, 4-coccous. *Cotyledons* oblong, flat.—Woody plants; leaves *entire;* flowers *usually in corymbiform cymes, white.*

Sect. 1. EUBEURERIA.—*Stamens inserted below the corolla-throat. Drupe globose or ovoid, 4-pyrenous: pyrenæ tardily separating: distinct carpophore none.*

22. **B. succulenta,** *Jacq.* *Glabrous;* leaves obovate-oblong, oblong, or obovate-roundish, petioled; corymbs spreading, usually paniculate; *corolla-tube as long as the obovate lobes, little longer than the glabrous calyx;* drupe globose or at length obtusely 4-angular, twice-thrice as long as the calyx.—*Jacq. Amer. Pict. t.* 45.—Ehretia Bourreria, *L.*—A small tree or shrub, 15′–5′ high; leaves 2″–5″, calyx 2‴–3‴, corolla-tube 3‴ long; drupe yellow, 3‴–6‴ diam.—HAB. Jamaica!, all coll., common in savannahs; Antigua!, *Nichols.*, *Wullschl.*, Dominica!, *Imr.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* [Cuba! to French islands!; Curaçao].

23 **B. tomentosa,** *G. Don.* Velvety-pubescent or glabrescent; leaves elliptical-oblong, lanceolate-oblong, or oval, blunt, tapering into the petiole, often hispidulous-tubercled above, softly pubescent beneath; *corolla-tube twice as long as the roundish*

lobes, exceeding the softly pubescent calyx; drupe globose, or at length obtusely 4-angular, thrice as long as the calyx.—*Sl. t.* 204. *f.* 1. *Br. Jam. t.* 15. *f.* 2.—Ehretia, *Lam.*—A small tree or shrub, 10′–15′ high; leaves 4″–2″, calyx 2‴–3‴, corolla-tube 4‴–6‴ long; drupe yellow, 4‴–3‴ diam.

α. Leaves pubescent, or upper side glabrate; corolla-tube twice as long as the hoary-pubescent calyx.

β. velutina. Leaves hispidulous-scabrous or glabrate above, velvety beneath; corolla-tube little longer than the hoary-pubescent calyx.—Ehretia velutina, *DC.*

γ. havanensis. Leaves glabrous or glabrescent; corolla-tube twice as long as the pubescent (or glabrate) calyx.—*Catesb. Carol.* 2. *t.* 79.—Ehretia havanensis, *W.*

HAB. Bahamas!, *Swains.;* Jamaica!, all coll., (*α, β, γ*); [Cuba! (*γ*); Key West! (*γ*)].

24. **B. domingensis,** *Gr.* Branchlets puberulous or glabrate; leaves leathery, obovate or oval, rounded-blunt or with a bluntish point, tapering into the petiole, glabrous; cymes terminated with glomerate flowers, sericeous; *corolla-tube twice as long as the roundish lobes, as long as the hoary-sericeous calyx.*—Ehretia exsucca, *Berter.!* (*non Jacq.*).—Leaves 4″–1½″, calyx 3‴–4‴ long.—HAB. Jamaica!, *Al.*, Albion pen; [Haiti!].

Sect. 2. TETRACOCCUS.—*Stamens inserted into the lower part of the corolla-tube, hispid below. Fruit dry, tetracoccous: nutlets seceding from a 2-partite, filiform carpophore.*

25. **B. exsucca,** *Jacq.* Branchlets hispidulous; leaves elliptical or lanceolate-oblong, pointed or bluntish, tapering into the short petiole, glabrous (or glabrescent), archveined; cymes corymbiform, hispidulous; calyx puberulous, mucronate in the bud, at length 2–3-dentate; *corolla-tube twice as long as the ovate-roundish lobes and as the calyx; fruit subulate-pyramidal:* nutlets spongious, concave on the back.—*Jacq. Amer. Pict. t.* 259. *f.* 13: *analyt.*—Ehretia, *L.*—A low tree, 15′ high; leaves 3″–2″, corolla-tube 8‴ long; fruit 6‴ high and broad: nutlets contracted above the middle.—HAB. S. Vincent!, *Guild.;* [New Granada!, Venezuela].

4. ROCHEFORTIA, *Sw.*

Calyx 5-partite: segments imbricate. *Corolla* rotate. *Stamens* exserted, inserted into the corolla-throat. *Style* 2-partite. *Berry* 4-pyrenous: pyrenæ early separating. *Cotyledons* flat.—Shrubs, *often spiny;* leaves *fascicled along the branches;* flowers *yellowish-white, in small corymbiform or solitary, terminating the fascicles of the leaves.*

26. **R. cuneata,** *Sw.!* Unarmed or with small spines; leaves obovate, blunt, or emarginate, tapering into the petiole, glabrous, shining above; *corymbs* glabrescent, *exceeded by the leaves; calyx-segments* ovate-roundish, ciliate, *equalling the corolla-tube;* corolla-segments ovate-oblong, blunt, twice as long as the tube; berry globose.—R. ovata, *Sw. Fl.* (*ex descr. floris, non Sw. herbar.*).—3′–4′ high; leaves 2″–1″, calyx 1‴ long; corolla 4‴–5‴, yellow berry 3‴–4‴ diam.; stigmas thickened.—HAB. Jamaica!, *March;* [Guadeloupe!, in woods].

* 27. **R. acanthophora,** *Gr.* Wholly spinose: leaves small, spathulate (or oval), emarginate, subsessile or shortly petiolate, pubescent beneath or glabrate, usually twice as long as the spines; *flowers* 1–2, *subsessile; calyx-segments* ciliate or pubescent, deltoid or roundish, *half as long as the corolla-tube;* corolla-segments ovate-oblong, blunt, about as long as the tube; berry globose.—*Sw. Fl. t.* 11. *inf.: analyt.*—Ehretia, *DC.!* E. spinosa, *West!*, *Berter. ap. Spreng.!* (*non Jacq.*). R. ovata, *Sw. herbar.!:* but the analysis of the flowers of both species was probably changed in his Flora, so that their description in *R. cuneata*, and the figure belong to this, and that of *R. ovata* to the foregoing species.—Leaves 4‴–10‴, calyx 1‴ long; berry yellowish, 2‴–3‴ diam.—HAB. Jamaica!, *Sw.*, *March*, on arid, rocky hills; Antigua!, *Wullschl.;* [Haiti!, S. Croix!].

5. TOURNEFORTIA, *L.*

Calyx 5(–4)-partite. *Corolla* salver-shaped: lobes short. *Stamens* included, or the points of the anthers exserted. *Style* simple: stigma supported by a ring, undivided or 2-lobed. *Fruit* usually drupaceous, 2-pyrenous with 2-celled, 2-seeded pyrenæ, or 4(–1)-

pyrenous with 1-seeded pyrenæ.—Shrubs (rarely herbs); leaves *entire;* spikes *gyrate, one-sided, usually compound;* corolla-lobes *in the West Indian species plaited-valvate.*

Sect. 1. MALLOTONIA.—*Drupe dry, hollowed at the base, entire at the top, 2-pyrenous: dissepiment of each pyrena solid. Seeds albuminous. embryo straight.*

28. **T. gnaphalodes,** *R. Br.* *Wholly sericeous-tomentose,* leafy; leaves spathulate-linear, blunt, sessile; spikes short, in a few-branched corymb: flowers subconnected, white; corolla-tube villous: lobes ovate, blunt; drupe ovate-conical.—*Jacq. Amer. Pict. t.* 259. *f.* 9: a leaf.—Heliotropium, *Jacq.*—A shrub, 2′–6′ high; leaves 1½″–2½″ long.—HAB. Bahamas!, *Swains.*, Turk islands!, *Hjalm.;* Jamaica!, *Pd.*, *M'Nab*, *Al.*, along the coast; Antigua!, *Wullschl.*, S. Vincent!, *Guild.*, Barbadoes; [Florida! to Guadeloupe!].

Sect. 2. PITTONIA, *Kth.*—*Drupe entire, 2-pyrenous: pyrenæ 2-celled, campylospermous by the hollowed dissepiment. Embryo straight.*

29. **T. hirsutissima,** *L.* *Hispid* or hispidulous; *leaves elliptical,* pointed, petioled: *primary veins* 9–6-*jugal;* spikes contracted, corymbose; *corolla-tube* strigose above the base, cylindrical, *thrice as long as the calyx: lobes deltoid-ovate;* drupe subglobose, pilose. —*Sl. t.* 212. *f.* 1. *Desc. Fl.* 4. *t.* 253.—T. fœtidissima, *L.* (*ex syn. Sl.*). T. corymbosa, *Sieb. Tr.* 39!—A trailing shrub; leaves 3″–5″, corolla-tube 2‴ long; flowers and drupes white.—HAB. Jamaica!, all coll.; S. Vincent!, *Guild.;* Trinidad!, *Sieb.*, *Cr.;* [Cuba! and Mexico! to Brazil].

30. **T. fœtidissima,** *W.* *Leaves* large, *glabrous, elliptical-oblong,* bluntish, tapering into the petiole: *primary veins* 18–14-*jugal;* spikes corymbose-panicled; *corolla-tube* hirsute, cylindrical, *thrice as long as the calyx: lobes ovate, bluntish;* drupe subglobose, glabrous.—*Plum. Ed. Burm. t.* 230.—Suffruticose, robust; leaves 12″–8″, corolla-tube 2‴ long.—HAB. Dominica!, *Imr.;* [Guadeloupe!].

31. **T. filiflora,** *Gr.* *Leaves large, glabrous,* oblong or elliptical-oblong, bluntish, tapering into the petiole: *primary veins* 15–12-*jugal;* spikes divaricate, corymbose-panicled; *corolla-tube* puberulous, *filiform,* 4–5 *times as long as the calyx: lobes ovate-roundish, mucronate;* drupe subglobose, glabrous.—T. cymosa, *Gr. Pl. Carib.* (*non L.*).—Habit of the preceding; leaves 15″–6″, corolla-tube 2½‴ long, the latter narrower than in the allied species.—HAB. Jamaica!, *Pd.*, *Dist.*, on rocks, Manchester, S. George; Dominica!, *Imr.*, S. Lucia!, *Anders.;* [Guadeloupe!].

32. **T. cymosa,** *L.*, *DC.* *Leaves glabrous,* elliptical-oblong or lanceolate-oblong, pointed, tapering into the petiole: *primary veins* 12–9-*jugal;* spikes long, nodding, corymbose; *corolla-tube* puberulous, cylindrical, 4 *times as long as the calyx: lobes ovate-lanceolate, acuminate;* drupe depressed, rhomboid-subglobose, glabrous.—*Sl. t.* 212. *f.* 2. *Desc. Fl.* 5. *t.* 376.—T. fœtidissima, *Desc.*—Habit of the preceding; leaves 10″–5″, spikes 8″–3″, corolla-tube 2‴ long.—HAB. Jamaica!, *Al.*, *March*, *Wullschl.;* [Cuba!].

33. **T. astrotricha,** *DC.* *Leaves pubescent beneath along the tertiary veins,* elliptical-oblong or elliptical-lanceolate, tapering into the petiole: *primary veins* 8–6-*jugal;* spikes long, corymbose; *corolla-tube* pubescent, cylindrical, *twice to thrice as long as the calyx: lobes oval-roundish, blunt;* drupe subglobose, glabrous.—*Jacq. Ic. Rar. t.* 31.—T. cymosa, *Jacq.* (*non L.*).—A shrub or small tree; leaves 8″–3″, corolla-tube 2‴ long; flowers "reddish" (*Jacq.*).—HAB. Jamaica!, *Lane, Wils.*, *March*, e.g. Port Henderson.

34. **T. bicolor,** *Sw.* *Leaves glabrous,* elliptical, elliptical-oblong, or ovate, petioled, *primary veins* 6–4(–8)-*jugal;* spikes short, corymbose, usually contracted-flexuose; *corolla-tube* pubescent, campanulate-cylindrical, 3(–4) *times as long as the calyx: lobes ovate, mucronate;* drupe subglobose, glabrous.—A shrub; leaves 3″–5″ (–6″), corolla-tube 2‴(–3‴) long; flowers greenish-white.

α. Calyx-segments ovate-lanceolate, one-third as long as the corolla-tube.—T. lævigata, *var.* latifolia, *DC.* (*ex Sieb. Tr.* 40!, *Mart.* 62!).

β. lævigata, Lam. (in herb. Ryan). Calyx-segments lanceolate, one-third as long as the corolla-tube.

γ. brachysepala. Calyx-segments ovate-deltoid, one-fourth as long as the corolla-tube.—T. lævigata, *Seem. Panam.!*

HAB. Jamaica !, *Pd.*, *Al.*, *Wullschl.* (α); Antigua !, *Wullschl.* (α), Montserrat !, *West* (γ), Dominica !, *Imr.* (β), Barbadoes; Trinidad !, *Sieb.*, *Cr.* (α); [Cuba ! and Mexico ! to Brazil !].

35. **T. staminea,** *Gr.* (*n. sp.*). *Leaves glabrous* or dotted with prominulous points, leathery, elliptical-oblong or elliptical-lanceolate, with a bluntish point, tapering into the petiole: *primary veins* 5–7-*jugal;* spikes long, recurved, 2–4-fid; *corolla-tube* slightly puberulous or glabrescent, clavate-cylindrical, *thrice as long as the calyx : lobes roundish, blunt; anthers oblong, with their point exserted;* drupe ovate-globose, contracted at the suture, glabrous —A shrub, distinguished by the longer anthers and larger drupes, while in all the foregoing *Pittoniæ* the anthers are roundish, and deeply included; leaves 6″–4″, spike-divisions 6″–2″ long; calyx segments deltoid, glabrescent; corolla-tube 2‴ long; anthers 1‴ long, subsessile, inserted into the middle of the tube; drupe 2½‴ long.—HAB. Jamaica !, *Pd.*, *Al.*, *March,* in the mountains, Dolphin's peak; [Haiti !].

Sect. 3. MESSERSCHMIDIA, *Kth.* (*non L., non A. DC.*).—*Drupe* 4(–1)-*pyrenous, divided into as many lobes as there are* 1-*seeded pyrenæ. Embryo curved.*—Anthers connivent, with their points cohering; drupes shortly pedicellate, distant.

In all our species there occur monstrous, tomentose drupes, even in species of which the normal ones are glabrous: a similar monstrosity (figured in Miq. Surin. t. 41) has led Miquel to consider his *T. syringifolia* and *T. laurifolia* to be *Pittoniæ:* the former, though unknown to me, from its pedicellate drupes, is a *Messerschmidia,* distinguished only by minute characters from *T. laurifolia.*

36. **T. laurifolia,** *Vent.* *Leaves glabrous* or glabrescent, at length dotted with roughish points beneath, ovate or elliptical, pointed, petioled; spikes diverging, corymbose; *corolla-tube* slender, puberulous or pubescent, 4–3 (–6) *times as long as the calyx: lobes subulate: anthers oblong, with their* connivent *points exserted,* inserted below the corolla-throat; drupe 2–4(–1)-lobed, glabrous.—*Vent. Choix, t.* 2.—T. syringifolia, *V. in Pl. Ryan !*, *Berter. !* (*non Miq.*). T. Sagræana *and* surinamensis, *A. DC.*—A twining herb, variable in the down, the size of the calyx, its segments ovate or lanceolate, and the breadth of the subulate corolla-lobes; leaves 3″–1″, corolla-tube 2‴–3‴ long: lobes one-third to one-fourth as long as the tube.—HAB. Jamaica !, *Al.*, *March;* Trinidad !, *Cr.*, *Lockh.;* [Cuba ! and Panama ! to equat. Brazil ! and Guiana !].

37. **T. volubilis,** *L.* *Leaves hispidulous* (or glabrate) *above, glabrate or puberulous beneath,* ovate or oblong, petioled; spikes slender, corymbose; *corolla-tube* puberulous, *thrice as long as the calyx, nearly as long as the linear-filiform lobes;* anthers ovate, pointleted, included, inserted below the corolla-throat; drupes 4(–2)-globose, glabrous.—*Sl. t.* 143. *f.* 2.—A twining, variable shrub; leaves 3″–1″ (–⅓″), corolla-tube 1‴ long.

α. Leaves 3″–1″ long, pointed.—T. punctata, *Spreng.* (*ex Sieb. Mart.* 63 !).

β. *microphylla,* Desv. Leaves small, 1″–6‴ (–4‴) long, blunt.

HAB. Bahamas !, *Swains.*, Jamaica !, *Pd.*, *Al.* (α); Antigua !, *Wullschl.* (β), S. Lucia !, S. Vincent !, *Guild.*, Barbadoes !, *Lane;* [S. Thomas ! to French islands !; Venezuela ! to Brazil !].

38. **T. caribæa,** *Gr.* *Leaves hispidulous on both sides,* ovate-oblong or ovate-lanceolate, acuminate or pointleted, petioled; spikes slender, corymbose; *corolla-tube* pubescent, *thrice as long as the calyx, nearly twice as long as the linear-filiform lobes;* anthers ovate, pointleted, included, inserted below the corolla-throat; *drupe* 4(–2)-globose, *strigose:* calyx excrescent.—T. psilostachya β, *DC.* (*exclus. synon.*): the allied *T. psilostachya,* Kth. (*T. strigosa,* Anders. !) has glabrous drupes.—A twining shrub; leaves 4″–1½″, corolla-tube 1‴ long.—HAB. Dominica !, *Imr.;* Trinidad !, *Sieb. Tr.* 243.

39. **T. ferruginea,** *Lam.* *Leaves hispidulous or pubescent on both sides, or glabrate above,* ovate-lanceolate, ovate or oblong, pointed, petioled; spikes slender, corymbose; *corolla-tube pubescent, about twice as long as the calyx and as the linear-filiform lobes; anthers ovate-oblong,* pointleted, included, inserted below the corolla-throat; drupe 4(–1)-globose, glabrous.—T. microphylla, *Berter. !* T. volubilis β, γ, *DC.* T. membranacea, *DC.* (*ex specim. Gardner*).—A scandent, variable shrub, with pubescent branchlets; leaves 1″–3½″, corolla-tube 1½‴ long.—HAB. Jamaica !, *Al.*, *March,* *Wullschl.;* [Cuba ! and Mexico ! to Brazil !].

40. **T. tomentosa,** *Mill.* *Leaves pubescent above, hoary-tomentose beneath,* ovate-lanceolate or ovate-oblong, acuminate, petioled; spikes corymbose, villous; *corolla-tube villous, twice as long as the calyx, scarcely longer than the linear-filiform lobes;* anthers ovate, pointleted, included, inserted below the corolla-throat; drupe 4(–1)-globose, glabrous. —T. sericea, *V.?*, *Fresen.*—A scandent shrub; leaves 3″–1½″, corolla-tube 1‴ long.—Hab. Jamaica!, *Macf.;* Montserrat (*ex synon. V.*); Trinidad!, *Lockh.*, *Cr.*, on dry hills; [Brazil].

41. **T. poliochros,** *Spreng.!* Slender; *leaves hispidulous above, hoary-tomentose beneath, sharply lanceolate-acuminate,* shortly petioled; spikes few-branched, divaricate; *corolla-tube* pubescent, *twice as long as the calyx, about half as long again as the linear-filiform lobes;* anthers ovate, pointleted, included, inserted about the middle of the corolla-tube; drupe 4(–1)-lobed, glabrous: lobes globose.—A suffruticose climber; leaves 2″–1″, corolla-tube 1‴ long.—Hab. Jamaica!, *Wils.*, *Bancr.*, *March.*

42. **T. incana,** *Lam.* Slender; *leaves hispidulous above, scabrous-pubescent* (or hoary) *beneath, oblong-lanceolate* or oblong-linear, acuminate *with a bluntish point,* petioled; spikes usually short, few-branched, diverging; *corolla-tube* pubescent, *thrice as long as the calyx, about twice as long as the linear-filiform lobes;* anthers ovate, pointleted, included, inserted about the middle of the corolla-tube; drupe 4(–1)-lobed, glabrous: lobes globose.—*Lam. Ill. t.* 95. *f.* 3.—T. minuta, *Berter.* (*ex Descr.*). T. sericea, *V.?*, *Cham.*—A small, trailing or suberect shrub; leaves 1″–½″ (–1½″), corolla-tube 1‴ long.—Hab. Jamaica (*ex synon. Berter.*); [Cuba!, Haiti!].

6. HELIOTROPIUM, *L.*

Calyx 5-partite, rarely 5-dentate. *Corolla* salver-shaped, plaited: lobes short. *Stamens* included. *Style* simple, terminal, or none: stigma supported by a ring. *Nutlets* 4, all seceding or united in pairs.—Herbs *or* low shrubs; flowers *one-sided, in gyrate spikes or single.*

The genera, usually separated from *Heliotropium*, are analogous to the sections of *Tournefortia*, and would, if admitted, lead to a similar division of the latter genus.

Sect. 1. Tiaridium, *Lehm.*—*Fruit 2-lobed, the conical, costate nutlets being united in pairs.*—Corolla contracted at the glabrous throat. Anthers distinct. Stigma peltate-hemispherical, as long as the style. Spikes ebracteate.

43. **H. indicum,** *L.* Annual, pilose; leaves ovate or subcordate, contracted into the long petiole, crenate-repand; spikes elongated, simple; anthers inserted below the middle of the corolla-tube; *fruit glabrous: lobes diverging, 2-dentate:* carpids with an empty cavity along the commissure.—*Desc. Fl.* 7. *t.* 483.—Tiaridium, *Lehm.* Heliophytum, *DC.* —1′–2′ high; flowers pale-blue.—Hab. Jamaica!, all coll., a weed; Nevis, Antigua!, *Wullschl.;* Trinidad!, *Sch.;* [Illinois! to Buenos Ayres!, and all tropical countries.]

Sect. 2. Heliophytum, *Cham.*—*Fruit didymous, the subglobose nutlets being united in pairs.*—Corolla-tube open. Anthers distinct. Spikes ebracteate.

44. **H. parviflorum,** *L.* Annual or suffrutescent, pilose; leaves ovate-lanceolate, ovate, or lanceolate-oblong, pointed, petioled: hairs scattered above, confined to the veins beneath; spikes slender, simple or 2-partite; anthers oblong, pointed, inserted below the middle of the shortly exserted corolla; *stigma* convex, *sessile,* puberulous; *fruit* rugose, *glabrescent, shortly 4-lobed:* carpid-pairs parallel.—*Dill. Elth. t.* 146.—Heliophytum, *DC.* H. fœtidum, *DC.* H. humile, *Pæpp. Cub.* (*non Lam.*).—1′–2′ high; leaves often opposite; corolla white: tube ⅔‴ long: limb hairy above.—Hab. Bahamas!, *Swains.;* Jamaica!, all coll., a weed; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.*, *Lockh.*, common on dry banks during the wet season; [Key West!; Cuba! and Mexico! to Peru! and Brazil!; Galapagos!].

Sect. 3. Euheliotropium.—*Fruit of* 4 *seceding nutlets. Spikes ebracteate.*—Corolla usually glabrous at the throat. Anthers mostly distinct.

45. **H. inundatum,** *Sw.!* Annual or suffrutescent, hairy-subcanescent with appressed

(or spreading) down; *leaves spathulate* or oval-oblong, blunt, *petioled;* spikes 4–3(–2)-partite, filiform; corolla shortly exserted, bearing distinct hair-bundles above the stamens; anthers distinct, mucronate, inserted above the base of the corolla; *stigma* conical, glabrescent, *sessile; nutlets* minute, subglobose, puberulous on the bark.—*Kth. Nov. Gen. t.* 206: the villous form.—Schleidenia, *Fresen.* H. cinereum, canescens, *and* procumbens, *Kth.*—1′–2′ high; corolla white, ½‴, nutlets ¼‴ long: in the analogous *H. ovalifolium*, Forsk. (*H. coromandelinum*, Retz., *H. Kunzei*, Lehm., *H. niloticum*, A. DC.) of the old world I see the nutlets thrice as large, and more distinctly wrinkled on the sides.—Hab. Jamaica!, along the sea-shore, in wet places; Trinidad!, *Sieb. Tr.* 89, 227, *Sch.*, *Lockh.*, *Cr.;* [Cuba!, Texas!, and California!, to Uruguay!].

46. **H. curassavicum,** *L.* Suffrutescent, *glabrous; leaves lanceolate subsessile;* spikes 2-partite or simple; corolla shortly exserted, glabrous within; anthers distinct, acuminate, inserted above the base of the corolla; *stigma* blunt, glabrous, *sessile; nutlets* ovate–3-gonal, *glabrous.*—*Sl. t.* 132. *f.* 3.—Succulent-glaucous; flowers small, white.—Hab. Jamaica!, all coll., chiefly on the sea-shore; Antigua!, *Wullschl.;* [Oregon! to Patagonia!; Sandwich islands! to Australia! and the Cape!].

Sect. 4. Orthostachys, *R. Br.*—*Fruit seceding into* 4 *nutlets. Flowers lateral, in bracteate spikes or single.*—Corolla puberulous at the throat. Anthers subulate, cohering by their puberulous point, inserted about the middle of the corolla-tube. Style short.

H. parviflorum (*Schleidenia*, DC., and *Lithospermum distichum*, Pœpp. Cub. 2580, non Orteg.), found in Brazil and Cuba, is distinguished from *Orthostachys* by longer-pedicellate flowers, the calyx 5-fid and the corolla-plaits produced into a tooth: hence Fresenius has reduced *Orthostachys* to *Schleidenia*, which may be regarded (like *Odontotropium*) as a peculiar section of *Heliotropium.*

47. **H. filiforme,** *Kth.* Slender, annual, *suffruticose*, branched, strigose; leaves lanceolate, subsessile; *flowers at length* shortly pedicellate and *distant in elongated spikes:* bracts minute; corolla-tube as long as the longer calyx-segments, puberulous below the throat: lobes ovate; stigma conical, as long as the style, puberulous at the top; nutlets subglobose, hispidulous, 1-foveolate on each side.—*Sl. t.* 132. *f.* 4. *Kth. Nov. Gen. t.* 204.—Schleidenia, *Fresen.* H. helophilum, *Mart.* H. myosotoides, *Berter.!* (*non Lehm.*).—8″–12″ high, often diffuse; corolla white: tube 1‴ long.—Hab. Jamaica!, *March*, *Wullschl.*, in wet places; Mexico! to Brazil!].

48. **H. fruticosum,** *L.* *Shrubby*, leafy, strigose or villous-hispid; leaves lanceolate-acuminate or linear, subsessile, revolute at the margin; *flowers in short, dense, recurved spikes*, at length shortly pedicellate; corolla-tube about as long as the calyx, closed by decurrent, pubescent plaits: lobes ovate; stigma conical, as long as the style, puberulous at the 2-dentate top; nutlets subglobose, hispidulous, 1-foveolate on each side.—*Plum. Ed. Burm. t.* 227. *f.* 2.—H. ternatum, *V.* H. demissum, *R. S.* H. hirtum, *Lehm.!:* the short-leaved form.—5′–1′ high, variable in the down, and the leaves 16‴–4‴ long, ternately approximate, imbricate, or scattered: corolla white: tube 2‴ long.—Hab. Jamaica!, *Macf.*, *Al.*, *Wils.*, in dry, calcareous soil: Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Cuba! to French islands!, *Sieb. Mart.* 385; Guatemala! to Venezuela!].

49. **H. microphyllum,** *Sw.* Procumbent, diffuse, perennial, *suffruticose, hoary-sericeous* by strigose down; *leaves* approximate or imbricate, *minute, elliptical-oblong*, pointed, sessile: *flowers solitary, sessile between the superior leaves;* corolla-tube as long as the calyx, nearly closed at the puberulous throat: lobes roundish; stigma conical, puberulous, longer than the short style; nutlets subglobose, hoary-strigulose, 1-foveolate on each side.—Nearly allied to *H. humifusum*, Kth., of Cuba, which has longer, hispid leaves. 3″–6″ long; leaves 1‴–2‴, corolla-tube ½‴ long.—Hab. Antigua!, *Wullschl.*, at Carlisle; [Guadeloupe].

CXX. LABIATÆ.

Stamens didynamous–2, inserted into the sympetalous, imbricative, mostly 2-lipped corolla. *Ovary* superior, 2-carpellary, 4-lobed, 4-celled: ovules single in each cell, erect:

style immersed. *Fruit* of 4 nutlets: seeds mostly exalbuminous.—Herbs or shrubs; stem *mostly tetragonal;* leaves *opposite, exstipulate;* flowers *in cymose clusters (whorls), rarely solitary:* clusters *axillary, racemose, or spikate.*

Volatile oils are general, and largely used as aromatics, *e.g.* those of *Ocimum, Hyptis,* and *Salvia:* the latter is astringent too.

1. OCIMUM, *L.*

Calyx very unequal, at length deflexed: upper tooth large, decurrent. *Upper corolla-lip* 4-fid, inferior entire, usually flat. *Stamens* didynamous, deflexed.—Whorls 6(–10)-*flowered, racemose.*

1*. **O. Basilicum,** *L.* Annual; leaves elliptical or elliptical-lanceolate, glabrescent; raceme interrupted; *calyx* ciliate, *about half as long as the corolla: superior tooth roundish, shortly decurrent,* 2 lateral ovate, pointed, 2 inferior subulate; upper filaments bearing a tooth at their base.—*Desc. Fl.* 4. *t.* 301.—HAB. Naturalized in Jamaica, S. Vincent!, *Guild.;* [introduced from trop. Asia! and Africa!].

2. **O. micranthum,** *W.* Annual; leaves ovate, pointed, serrulate, contracted into the petiole, glabrescent; *calyx enlarged* around the nutlets: *upper tooth* ovate, blunt, concave, *decurrent to the base of the tube,* 4 inferior subulate; filaments naked, included. —O. frutescens, *Sieb. Mart.* 154.– Calyx at length 4‴ long.—HAB. Jamaica!, *Dist., Wils.;* Antigua!, *Wullschl.*, S. Lucia!, *hb. Benth.;* [Cuba! and Mexico to Brazil!].

2*. COLEUS, *Lour.*

Calyx unequal: upper tooth larger. *Corolla-tube* deflexed: upper lip 4(–3)-crenate, inferior entire, elongated, concave. *Stamens* of *Ocimum,* but monadelphous: tube narrow, including the style.—Whorls 6-*many-flowered, racemose.*

3*. **C. amboinicus,** *Lour.* Suffruticose, subtomentose or pilose; leaves deltoid, crenate, petioled; raceme elongated, interrupted: whorls many–10-flowered; calyx tomentose, naked at the throat: upper tooth ovate-oblong, blunt, not decurrent, 4 inferior shorter, linear-setaceous; corolla-tube infracted at the middle, twice as long as the calyx, as long as the inferior lip.—*Bot. Reg. t.* 1520: in our form the stamens are longer-exserted.—C. aromaticus, *Benth.*—Fragrant; branches somewhat fleshy; raceme 6″–12″ long.—HAB. Naturalized in Antigua!, *Wullschl.;* [introduced from the East Indies].

3. MARSYPIANTHES, *Mart.*

Calyx equal, 5-fid. *Inferior corolla-lobe* deflexed, 4 superior subequal. *Stamens* 4, deflexed. *Nutlets* cymbiform, appendiculate by an involute, dentate wing.—Herbs; whorls *capitate, (rarely few-flowered), axillary.*

4. **M. hyptoides,** *Mart.* Annual; leaves ovate or ovate-lanceolate, serrate; heads many-flowered, usually peduncled.—*Ann. Mus.* 7. *t.* 27. *f.* 4; *t.* 31. *f.* 1.—Hyptis chamædrys, *W.* H. pseudochamædrys, *Poit.*—Heads 4‴–6‴ diam.; corolla included, blue or purple.—HAB. S. Vincent!, *Anders.;* Trinidad!, *Sieb., Cr.*, a weed; [Portorico! and Mexico! to Brazil!].

4. HYPTIS, *Jacq.*

Calyx 5-dentate–5-fid. *Corolla* 2-lipped: inferior lobe deflexed. *Stamens* 4, deflexed. *Nutlets* devoid of a concave margin.—*The West Indian species herbaceous.*

* *Flowers sessile in spicate whorls.*

5. **H. spicigera,** *Lam.* Stout; leaves petioled, ovate-lanceolate, acuminate, serrate, floral linear; *spikes cylindrical,* terminal; calyx equal: teeth subulate, shorter than the tube.—*Sl. t.* 108. *f.* 1. *Desc. Fl.* 8. *t.* 581.—7′–2′ high; spikes 1″–3″ long; flowers small, white.—HAB. Jamaica, along ditches near Spanish town (*Sl.*); [West Indies to Brazil!; trop. Africa! and Asia].

** *Flowers sessile, capitate: heads axillary.*

6. **H. capitata,** *Jacq.* Stout, glabrescent; *leaves petioled,* ovate-oblong, pointed, unequally and coarsely serrate, *floral oblong-linear,* at length reflexed, shorter than the head: *heads globose, axillary, shorter than their peduncle; calyx* equal: *teeth* subulate-setaceous, erect, *at length one-third as long as the tube.—Sl. t.* 109. *f.* 2.—Clinopodium, *L.*—7′-2′ high; leaves 2″-5″, peduncles 2″(-1″) long: heads in fruit 10‴-12‴ diam.—HAB. Jamaica!, all coll., a common weed; Antigua!, *Wullschl.*, S. Lucia!, S. Vincent!, *Guild.*; [Cuba! and Mexico! to Brazil!; Galapagos!; Manilla!].

7. **H. brevipes,** *Poit.* Stout, hairy above; *leaves petioled,* ovate or ovate-oblong, pointed, inciso-serrate, *floral lanceolate-acuminate,* exceeding the flowering head; *heads globose, axillary, about as long as their peduncle; calyx* equal: *teeth* subulate-setaceous, erect, *at length about as long as the tube.*—Habit of the preceding, but leaves usually broader, peduncles 6‴(-1″) long, heads smaller, in fruit 6‴-8‴ diam., and calyx-teeth longer.—HAB. Jamaica; Trinidad!, *Cr.*, in moist places, *Sieb. Tr.* 359; [Martinique!; Mexico to Brazil!, trop. Africa! and Asia!].

8. **H. atrorubens,** *Poit.* Procumbent or ascending, hairy above; *leaves petioled,* shortly ovate-oblong or ovate, obtusely serrate, *floral ovate,* appressed, almost as long as the head; *heads globose-hemispherical, axillary,* as long as (or half as long as) their peduncle; *calyx* equal, truncate: *teeth setaceous, erect,* hispidulous, at length shorter than the tube.—*Ann. Mus.* 7. *t.* 27. *f.* 3.—Rooting at the base; leaves 1″ long; heads 4‴-6‴ diam.—HAB. Jamaica!, *March*; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, in moist savannahs; [Haiti and Mexico! to Brazil!; Senegambia!].

9. **H. lantanifolia,** *Poit.* Virgate, usually villous; *leaves subsessile* or inferior petioled, shortly ovate-oblong, serrate, *floral exterior ones ovate,* spreading, subserrate, interior ovate-oblong, about as long as the head; *heads hemispherical, confined to the superior axils,* shorter than or as long as their peduncle; *calyx* equal: *teeth rigid, linear-acuminate, spinescent, recurved-flexuose,* yellowish, minutely puberulous, longer than the tube.—*Ann. Mus.* 7. *t.* 29. *f.* 1.—2′-5′ high; leaves 1″, peduncles 1½-¼″ long; heads about 6‴ diam.

α. All leaves subsessile, villous beneath.

β. glabrescens. Puberulous with appressed down; leaves glabrescent beneath, superior subsessile, inferior shortly petioled.

HAB. Trinidad!, *Lockh.*, *Cr.*, in savannahs (*α*, *β*); [Mexico! to Brazil!].

10. **H. melanosticta,** *Gr.* (*n. sp.*). Virgate; *leaves petioled,* elliptical-oblong, pointed, cuneate at the base, serrate above, glabrescent or slightly pilose with flaccid hairs, *black-dotted beneath, floral linear-acuminate,* at length reflexed, little exceeding the inferior flowers; *heads globose, axillary: their diameter longer than their short peduncle; calyx* equal: *teeth subulate-setaceous, spreading-erect,* slightly recurved at the point, hispidulous, at length about *half as long as the tube.*—Habit of *H. obtusiflora*, Prl., and apparently allied to *H. vilis*, Kth. Stem simple, 1′ high, pubescent chiefly along the angles; leaves about 1″ long, 5‴-6‴ broad: serratures few, spreading; heads in most axils, 4‴-5‴ diam., nearly equalling the petiole: peduncle 2‴-1‴ long: floral leaves numerous, resembling bracts, 2‴ long: receptacle hairy; calyx membranaceous, hispidulous, naked within, often black-dotted: teeth about ½‴ long.—HAB. Trinidad!, *Cr.*, in savannahs at Caroni.

*** *Flowers sessile, in racemose heads.*

11. **H. spicata,** *Poit.* Stout, glabrescent; *leaves* petioled, ovate, pointed, unequally serrate, *floral elliptical,* at length much shorter than the head; *heads* usually few-flowered, *in simple or compound, interrupted racemes; calyx* equal, truncate: tube cylindrical, ventricose at the base: *teeth shortly setaceous,* erect, *much shorter than the tube.—Ann. Mus.* 7. *t.* 28. *f.* 2.—Variable; leaves 1″-3″, calyx 2‴-5‴ long; corolla exserted.—HAB. Trinidad!, *Sieb. Tr.* 265; [Cuba!; Florida! to Buenos Ayres!].

12. **H. polystachya,** *Kth.* Stout, pubescent; *leaves* petioled, ovate, pointed, unequally serrate, *floral elliptical-oblong,* pointed, about as long as the head; *heads few-flowered, in a panicle of virgate racemes; calyx* equal, truncate, hairy: *teeth short, linear, bluntish,* erect, much shorter than the tube.—Leaves 1″-2″ long, superior decrescent; calyx

$1\frac{1}{2}'''$–$2'''$ long; corolla exserted.—HAB. Trinidad!, *Lockh.*, common in savannahs and ravines; [Mexico! to Venezuela! and Bolivia!].

**** *Flowers in contracted cymes, subsessile or pedicellate.*

13. **H. suaveolens,** *Poit.* Stout, pilose; *leaves* petioled, ovate or inferior cordate, duplicate-serrate or subsinuate, *floral minute, setaceous; heads few-flowered,* shortly peduncled, or subsessile, racemose-paniculate, and axillary; *calyx subsessile* or very shortly pedicellate, 10-costate: teeth subulate-setaceous, at length shorter than the tube, rigid, spreading-erect.—*Sl. t.* 101. *f.* 2. *Br. Jam. t.* 18. *f.* 3: *analyt. Jacq. Amer. Pict. t* 163. *Desc. Fl.* 6. *t.* 448.—Ballota, *L.* H. Plumieri, *Poit.*—Very variable, fragrant; heads 5–2-flowered; calyx at length $5'''$–$2'''$ long; corolla pale-blue, shortly exserted.—HAB. Jamaica!, all coll., a weed, in gravelly soil; Dominica!, *Imr.*; Trinidad!, *Cr.*, in savannahs, and cultivated as a medical plant; [Cuba! and Mexico! to Brazil!; East Indies!].

14. **H. pectinata,** *Poit.* Virgate, puberulous or glabrescent; *leaves* petioled, ovate, unequally crenate-serrate (or serrate), hoary-pubescent beneath or glabrescent, *floral setaceous; flowers one-sided in contracted,* short, *gyrate, recurved cymes:* cymes racemose or paniculate; *calyx shortly pedicellate,* 10-striate, subequal; *tube* shortly campanulate, *densely villous at the truncate throat:* teeth setaceous, shorter than the tube, suberect.—*Ann. Mus.* 7. *t.* 30.—Nepeta, *L.*—$6'$–$2'$ high; cymes $2'''$–$4'''$ diam.; calyx-tube $1'''$ long; flowers variegated-whitish.—HAB. Jamaica!, all coll., a common weed, in arid soil; Antigua!, *Lane, Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba! and Mexico! to Uruguay!; trop. Africa!].

15. **H. verticillata,** *Jacq.* Virgate, paniculate, usually glabrescent; *leaves* shortly petioled, oblong-lanceolate or lanceolate, serrate, *floral setaceous or abortive; whorls sessile, in interrupted racemes,* inferior axillary; *calyx pedicellate,* equal: *tube* shortly campanulate, *glabrous:* teeth ovate-lanceolate, shorter than the tube, erect.—*Jacq. Ic. Rar. t.* 113.—Stachys patens, *Sw.*—$8'$–$1'$ high; whorls at length $4'''$–$5'''$ diam.; calyx $1'''$ long; flowers small, whitish.—HAB. Jamaica!, *Macf., March, Wils.*, common; [Haiti, S. Thomas!, Mexico! to Uruguay!].

5. MICROMERIA, *Benth.*

Calyx subequal, 5-dentate, 13-nerved. *Corolla* 2-lipped: tube subincluded: lobes flat. *Stamens* didynamous, distant, ascending: anther-cells 2.—Whorls *axillary or racemose.*

16. **M. obovata,** *Benth. Shrubby,* diffuse, *pimpled and pubescent; leaves* small, obovate or ovate-roundish, revolute at the margin, *entire,* hoary beneath; whorls 2–4-flowered; *calyx subsessile:* teeth short, subulate-lanceolate, bluntish; corolla half as long again as the calyx; anthers included: cells parallel; style exserted.—*Colla Ripul. t.* 25. —Xenopoma, *W.* Satureja viminea, *L.* Zygia aromatica, *Desv.*—$1'$–$12'$ high; leaves $3'''$–$5'''$, white corolla $3'''$ long.—HAB. Jamaica!, *M'Nab, March*, in the higher mountains; [Cuba!].

17. **M. Brownei,** *Benth. Herbaceous,* delicate, procumbent, *glabrous* (except the ciliate petioles) or glabrescent; *leaves* deltoid-roundish, obtusely *few-serrate,* whorls 2-flowered, ebracteolate; *calyx pedicellate,* hairy at the throat: teeth deltoid, bluntish; corolla twice as long as the calyx; anthers included: cells parallel.—*Mart. Fl. Bras.* 22. *t.* 32. *f.* 1.—Thymus, *Sw.*—Habit of *Veronica hederæfolia*; leaves $3'''$–$5'''$ diam.: petiole of variable length; pedicels filiform, about as long as the flower; corolla $4'''$–$5'''$ long, purplish-white.—HAB. Jamaica!, all coll.; [Florida! to Brazil!].

6. SALVIA, *L.*

Calyx and *corolla* 2-lipped. *Stamens* 2: filaments jointed with the elongated, transverse connective, one branch of which is ascending, terminated by one anther-cell, the other usually descending, bearing the rudiment of the second cell.—Whorls *racemose or paniculate; in the West Indian species the* corolla *is devoid of an inner hair-ring, and the* connective *is linear to the end of the descending branch.* (Calosphace).

* *Corolla small; whorls distant.*

18. **S. occidentalis,** *Sw.* Annual, diffuse; *leaves* ovate, pointed, *cuneate at the base, serrate, glabrescent* (or with scattered hairs), *floral subulate;* whorls distantly racemose, 6–2-flowered; calyx glandular, about half as long as the blue corolla: upper lip entire, blunt, inferior 2-partite, its segments deltoid, bluntish or mucronate.—*Sl. t.* 107. *f.* 2.—Hyptis glandulosa, *Sieb. Mart.* 151. S. obscura, *Benth.!:* the form with mucronate inferior calyx-lobes.—Leaves 1½″–1″, corolla 3‴ long.—Hab. Jamaica!, all coll., a common weed; Antigua!, *Nichols.*, Dominica!, S. Vincent!, *Guild.;* Trinidad!, *Lockh.*, *Cr.*, common in dry savannahs; [Cuba! and Mexico! to Peru!; Galapagos!].

19. **S. tenella,** *Sw.* Annual, diffuse, or creeping; *leaves* deltoid, *truncate or subcordate at the base, serrate with spreading serratures,* glabrescent or pubescent chiefly beneath, *floral* small, *lanceolate;* whorls distantly racemose, 6–10(–2)-flowered; calyx glandular, exceeding half the blue corolla: upper lip entire, bluntish, inferior 2-partite, its segments ovate, shortly mucronate; superior stigma-lobe convolute, bluntish.—*Sw. Ic. t.* 2: a small-leaved, small-flowered form, which however passes into the common, larger-flowered, diffuse *S. micrantha, V.* (*Jacq. Schœnbr. t.* 481.).—Leaves 6‴–12‴, corolla 2‴–4‴ long.—Hab. Jamaica!, *Al.*, *Wullschl.*, *Wils.*, *March,* a common weed; [Cuba!, S. Thomas!; Mexico].

20. **S. serotina,** *L.* Suffruticose, softly pilose; *leaves* deltoid, bluntish, *truncate or subcordate at the base, crenate with appressed, truncate crenatures, softly pubescent, floral* small, *lanceolate;* whorls distantly racemose, 6(–2)-flowered; calyx glandular, exceeding half the blue (or white) corolla: upper lip entire, conform to the inferior 2 deltoid teeth; stigma-lobes filiform.—*Jacq. Ic. Rar. t.* 3. *Sw. Obs. t.* 1. *f.* 1.—S. dominica, *Sw.*—Leaves 12‴–6‴, corolla 3‴ long.—Hab. Bahamas!, *Swains.;* Jamaica!, *Waters;* Antigua!, *Lane, Wullschl.*, Dominica!; Trinidad!, *Sieb. Tr.* 124; [Virgin to French islands!, *Sieb. Mart.* 379].

** *Corolla shortly exserted; whorls approximate.*

21. **S. hispanica,** *L.* Annual, rigid-erect, pubescent; leaves ovate, pointed, serrate, long-petioled, floral ovate, exceeding the short pedicels; raceme spiciform: *whorls approximate, many-flowered; calyx* campanulate, *villous-pubescent:* upper lip ovate, pointed, 2 inferior teeth ovate-lanceolate, acuminate; *corolla blue,* shortly exserted, *glabrous,* including the stamens.—*Bot. Reg.* 5 *t.* 359.—1′–2′ high; leaves 2″–4″, corolla 4‴–5‴ long.—Hab. Jamaica!, *Macf.*, *Al.*, *Pd.*, in coffee-plantations, Port Royal; [Mexico! to Quito; naturalized in south-western Europe].

*** *Corolla above half an inch long; whorls at length distant.*

22. **S. eriocalyx,** *Berter. Shrubby;* leaves oblong-lanceolate, acuminate, serrate, pubescent above, hoary-tomentose beneath, floral deciduous; whorls racemose, little distant, 6–10-flowered; *calyx woolly:* upper lip roundish, blunt, 2 inferior teeth deltoid, bluntish; *corolla red, villous,* about twice as long as the calyx, including the stamens.—8′ high; leaves 3″–2″, corolla 8‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *Wils.*, in the mountains of Port Royal.

23. **S. lamiifolia,** *Jacq.* Suffruticose, erect, slightly puberulous; leaves ovate, pointleted, serrate, glabrescent, floral oval-subulate, deciduous; whorls racemose, distant, 6–10-flowered; *calyx glabrescent* between the puberulous ribs: teeth 3, conform, subulate; *corolla blue, villous above,* twice as long as the calyx, including the stamens.—*Jacq. Schœnbr. t.* 318.—Leaves 5″–4″, corolla 10‴ long.—Hab. S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 189; [Cuba].

24. **S. coccinea,** *L.* Herbaceous, erect; leaves cordate-ovate or ovate, crenate, hoary-pubescent beneath, floral ovate-lanceolate or lanceolate, deciduous; whorls racemose, distant, 6–10-flowered; *calyx puberulous:* teeth 3, ovate-deltoid; *corolla crimson,* puberulous, twice to thrice as long as the calyx; *stamens exserted.—Pohl Ic. Bras. t.* 192.—Leaves 1″–2″, corolla 8‴–10‴ long.

α. Stem appressed-pubescent.

β. *ciliata,* Benth. Stem pilose, stout.—S. pseudococcinea, *Jacq. Ic. Rar. t.* 209.

Hab. Jamaica!, *Dist.* (α); Antigua!, *Nichols.*, *Wullschl.* (β), Dominica!, *Imr.* (α); Trinidad!; [Bermudas! and Florida to Brazil].

S. splendens, Sell., occurs in Mr. Wullschlaegel's Jamaica collection: probably escaped from gardens.

S. densiflora, Benth., said to occur in Dominica, is probably a Haiti species.

7*. ANISOMELES, *R. Br.*

Calyx equal, 5-dentate, 10-nerved. *Corolla* 2-lipped: upper lip shorter, entire, inferior 3-lobed: tube included, annulate within. *Stamens* didynamous, exserted, approximate, 2 inferior shorter: anthers roundish, of the longer 1-celled, of the shorter 2-celled with parallel cells. *Stigma-lobes* equal, pointed. *Nutlets* smooth, blunt.—Herbs; whorls *axillary or racemose.*

25*. **A. ovata,** *R. Br.* Erect, pubescent; leaves ovate or deltoid-roundish, coarsely crenate above the base; whorls many-flowered, distant, inferior axillary: bracts spathulate-linear; calyx transversely veiny above, half as long as the purple corolla: teeth large, ovate-lanceolate, acuminate.—*Jacq. Eclog. t.* 86.—Nepeta indica, *L.* N. amboinica, *L. fil.* Ballota disticha, *L.*—1′–3′ high, habit of *Ballota*; calyx 5‴–4‴ long.—Hab. Jamaica!, *Wils.*, a common weed; [introduced from the East Indies!].

8*. STACHYS, *L.*

Calyx 5-dentate, 10–5-nerved. *Corolla* 2-lipped: tube usually annulate within. *Stamens* didynamous, parallel, 2 inferior longer, often at length deflexed: anthers 2-celled. *Stigma-lobes* equal, pointed. *Nutlets* blunt.

26*. **S. arvensis,** *L.* Annual, diffuse, pilose; leaves ovate, blunt, crenate, petioled; whorls 6–4(–2)-flowered, distant: bracts none; calyx hispid: teeth lanceolate-acuminate; corolla purple, shortly exserted.—Hab. Jamaica!, *March*, a weed; [introduced from Europe!].

9. LEONURUS, *L.*

Calyx 5-dentate, 5-nerved: teeth spinescent. *Corolla* 2-lipped: upper lip entire, inferior 3-lobed. *Stamens* didynamous, parallel, 2 inferior longer: anthers 2-celled. *Stigma-lobes* subequal. *Nutlets* 3-gonal, truncate.—Herbs; leaves *usually cut.*

27. **L. sibiricus,** *L.* "Biennial," stout, erect, puberulous or glabrescent; leaves palmatipartite or uppermost entire; calyx glabrescent, about half as long as the corolla; corolla red, pubescent: upper lip concave, tube straight, not annulate, exceeded by the stamens.—*Reichenb. Crit.* 4. *t.* 337.—Corolla about 6‴ long.—Hab. Jamaica, a weed; Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 183; [Oregon! to Uruguay!; Siberia! to East Indies! and trop. Africa].

10. LEUCAS, *R. Br.*

Calyx 10–8-dentate, 10-nerved. *Corolla* 2-lipped: upper lip concave, entire, woolly. *Stamens* didynamous, parallel, 2 inferior longer: anther-cells diverging. *Stigma-lobes* unequal, superior short. *Nutlets* 3-gonal, blunt.

28. **L. martinicensis,** *R. Br.* Annual, erect, pubescent; leaves ovate-lanceolate or ovate, obtusely serrate; whorls large, globose, many-flowered, distant: bracts linear-acuminate; calyx oblique above, recurved: teeth spinescent-setaceous from a subulate base, uppermost much longer; corolla white, included, not annulate.—*Jacq. Ic. Rar. t.* 110.—Clinopodium, *Jacq.* Phlomis, *Sw.* P. caribæa, *Jacq.*—Whorls axillary, at length 1″ diam.—Hab. Antigua!, *Wullschl.*, a weed, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 165; [Haiti to Brazil; trop. Africa! to the Cape! and East Indies!].

11. LEONOTIS, *R. Br.*

Character of *Leucas*, but upper corolla-lip elongated, much longer than the inferior,

which is equally 3-fid.—Whorls *large, subglobose, distant;* flowers *crimson or yellow;* calyx *recurved, oblique.*

29. **L. nepetæfolia,** *R. Br.* Annual; leaves ovate, crenate-serrate, long-petioled; calyx-teeth spinescent, unequal, lanceolate linear, uppermost much larger, subulate; corolla crimson, villous, about twice as long as the calyx.—*Bot. Reg. t.* 281.—Phlomis, *L.* 2′–8′ high: whorls about 2″ diam.—HAB. Jamaica!, *March*, a weed; Antigua!, *Wullschl.*; S. Vincent!, *Guild.*; Trinidad!, *Sch.*, *Cr.*, common; [S. Thomas to Brazil!, trop. Africa! and Asia!].

12*. PRUNELLA, *L.*

Calyx 2-lipped, closed in fruit, reticulated-veiny: upper lip flat. *Corolla* 2-lipped, annulate within. *Stamens* didynamous, parallel, 2 inferior longer: filaments appendiculate behind the anthers: anther-cells diverging. *Stigma-lobes* 2, pointed. *Nutlets* smooth.—Low, perennial herbs; whorls *shortly spicate.*

30*. **P. vulgaris,** *L.* Leaves ovate, petioled; calyx exceeding half the blue corolla: upper teeth distant; filaments bearing a subulate, straight tooth.—HAB. Naturalized in Jamaica!, *March;* [introduced from the Old World].

13. SCUTELLARIA, *L.*

Calyx 2-lipped, closed in fruit, but splitting to the base: lips entire, the superior furnished with a dorsal, helmet-like appendage. *Corolla* 2-lipped: tube exserted. *Stamens* didynamous, parallel, 2 inferior longer: anthers hairy, of the longer 1-, of the shorter 2-celled. *Style-lobes* unequal. *Nutlets* tubercled.—Whorls *often one-sided.*

31. **S. purpurascens,** *Sw.* Herbaceous, diffuse, branched chiefly at the base, leaves petioled, ovate, or deltoid, bluntish, few-serrate, floral minute, elliptical, entire; *whorls distant in a short, lax, one-sided raceme, 2-flowered* (or the uppermost flowers scattered); *calyx shorter than the pedicel,* at length excrescent; corolla blue, pubescent: tube slender, cylindrical, dilated at the throat, much longer than the calyx.—Variable, glabrescent or pubescent, 5″–1′ high; leaves 1″, calyx scarcely 1‴, in fruit 2‴, corolla 6‴–8‴ long.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 169; [Cuba! to Guadeloupe!; Guatemala! to Brazil].

14. TEUCRIUM, *L.*

Calyx 5-dentate or 5-fid. *Corolla* 1-lipped, deciduous: inferior lobe much larger. *Stamens* didynamous, inferior longer. *Nutlets* obliquely affixed, mostly reticulated-rugose.

32. **T. cubense,** *L.* Herbaceous, erect, *glabrous;* leaves cuneate-elliptical, pinnatifid-serrate with blunt oblong lobes or serratures; *whorls 2-flowered, axillary: pedicels about as long as the deeply 5-fid calyx;* corolla bluish-white, about twice as long as the calyx.—*Jacq. Amer. Pict. t.* 164.—Stem simple, 1′–1½′ high.—HAB. Bahamas!, *Swains.;* [Cuba!; California and Texas! to Buenos Ayres!].

33. **T. inflatum,** *Sw.* Herbaceous, erect, *villous,* pubescent or glabrate; leaves petioled, ovate or ovate-lanceolate, coarsely serrate; *whorls approximate, in a slender, spiciform raceme; calyx subsessile, inflated-ventricose, oblique,* unequally 5-dentate at the contracted summit: upper tooth broader; corolla light-pink, twice as long as the calyx.—*Desc. Fl.* 3. *t.* 223.—Stem 2′–3′ high, few-branched; raceme 3″–5″ long.—HAB. Jamaica!, *Al.*, *Wullschl.*, *Wils.*, *March,* in shady places; [Mexico! to Buenos Ayres!; Galapagos! to New Caledonia!].

CXXI. VERBENACEÆ.

Stamens didynamous or 2–5(–more), inserted into the sympetalous, imbricative, usually 2-lipped corolla. *Ovary* superior, 2–4(–1)-carpellary, 4–8–2(–1)-celled: ovules 1(–2) in each cell: style terminal. *Fruit* drupaceous, or, when dry, usually splitting into nutlets.

Seeds exalbuminous: radicle mostly inferior.—Leaves *usually opposite or whorled, exstipulate; flowers centripetal or in centripetal cymes.*

In *Verbenaceæ* there are less volatile oils than in *Labiatæ*, though several are used as aromatic astringents (*Stachytarpha, Lantana*); *Cornutia* is regarded as an antidote against poison. This Order affords excellent timber-trees, *e. g. Citharexylon* and *Petitia* (both called fiddle-wood), *Vitex* (box-wood): *Avicennia* (the olive mangrove) is employed for building purposes.

TRIBE I. *VERBENEÆ.—Ovules erect.*—Inflorescence simply centripetal.

1. TAMONEA, *Aubl.*

Calyx 5-dentate: teeth distant. *Corolla* 2-lipped. *Stamens* included, didynamous: connective of the superior ones bearing a large, dorsal gland. *Stigma* capitate. *Achenium* 4-celled.—Racemes *spiciform, axillary, few-flowered.*

1. **T. verbenacea,** *Sw.* Suffrutescent, branched, virgate, scabrous; inferior leaves small, oblong, pinnatifid-serrate, superior often linear, entire; flowers shortly pedicellate, distant, alternate; achenium 4-spinose at the summit: spines subuliform, spreading.—*Sw. Fl. t.* 21. *fig. sup.: analyt.*—Ghinia, *Sw.*—1′–2′ high; inferior leaves 4‴–3‴, superior 6‴–12‴, whitish corolla 3‴ long.—HAB. Antigua!, *Nichols.*, *Wullschl.*; [Curaçao].

2. PRIVA, *Juss.*

Calyx 5-dentate. *Corolla* obliquely 5-lobed: limb short, spreading. *Stamens* included, didynamous. *Stigma* lateral, compressed. *Fruit* 2-coccous: nutlets 2-celled or 1-celled by abortion.—Herbs; flowers *distantly alternate, in spiciform, terminal racemes.*

2. **P. echinata,** *Juss.* Hispidulous, slender; leaves ovate, pointed, serrate or crenate, contracted into the petiole; calyx ventricose in fruit: down uncinate; *nutlets 2-celled, muricate*, flattish at the commissure: *spines distichous*, spreading.—*Sl. t.* 110. *f.* 1. *Jacq. Amer. Pict. t.* 9.—Verbena lappulacea, *L.* P. mexicana, *Sieb. Mart.* 316!—1′–3′ high; leaves 3″–1″, pale-blue corolla 2‴ long.—HAB. Jamaica!, *Wullschl.*, *Al.*, *March*, a weed; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*, *Cr.*, very common; [Cuba! and Mexico! to Brazil!].

3. VERBENA, *L.*

Calyx 5-dentate: one tooth usually shorter. *Corolla* obliquely 5-lobed. *Stamens* included, didynamous(–2). *Stigma* blunt, with a second abortive lobe. *Fruit* 4-coccous, included.—Herbs; flowers *sessile, usually spikate.*

3. **V. urticifolia,** *L.* Tall, scabrous with scattered, hispidulous down; *leaves* ovate or ovate-lanceolate, contracted into the petiole, *coarsely serrate; spikes filiform*, compound: *flowers distant:* bracts two-thirds as long as the small calyx; connective naked.—3′–1′ high; corolla whitish, 2‴ long.—HAB. Jamaica!, all coll., a weed; [Canada! to Mexico!; Haiti!].

4. BOUCHEA, *Cham.*

Calyx long-tubular, 5-dentate. *Corolla* obliquely 5-lobed. *Stamens* included, didynamous. *Stigma* oblique, subcompressed, with a second abortive lobe. *Fruit* 2-coccous: nutlets linear, 1-seeded.—Herbs; flowers *in spiciform racemes.*

4. **B. Ehrenbergii,** *Cham.* Annual, erect, slightly puberulous; leaves ovate, coarsely serrate above the base, petioled; racemes slender: flowers at length distant, shortly pedicellate: bracts about half as long as the calyx; calyx-teeth subulate-setaceous; *nutlets shortly exserted.*—*Jacq. Ic. Rar. t.* 208.—Verbena prismatica, *L.* (Stachytarpha, *V.*).—1′–2′ high; pedicels ½‴, calyx 3‴, at length 4‴, corolla-tube 5‴, nutlets 5‴ long; flowers light-purple or violet.—HAB. Jamaica!, all coll., a common weed; Antigua!, *Wullschl.*; [Haiti!; Mexico! to Venezuela! and New Granada!].

5. STACHYTARPHA, *V.*

Calyx 4–5–2-dentate. *Corolla* 5-lobed: tube often incurved. *Stamens* included, fertile 2: anther-cells diverging. *Stigma* capitate. *Fruit* 2-coccous: nutlets linear, 1-seeded.—Herbs or shrubs; flowers *spicate, in the West Indian species sunk in furrows of the rhachis.*

5. **S. cayennensis,** *V.* *Shrubby;* leaves ovate, blunt or bluntish, serrate, contracted into the petiole; spikes slender: *furrows as broad as the rhachis:* bracts linear-acuminate, setaceous above; *calyx* 4-*dentate.*—Calyx 2‴ long; corolla-limb 2‴ diam., rhachis at length 1‴ diam.—HAB. Jamaica!, *Macf.*, *March;* Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sch.;* [Mexico! to Brazil!].

6. **S. jamaicensis,** *V.* *Annual,* suffrutescent, glabrescent; leaves oval, coarsely serrate, tapering into the petiole; spikes elongated, cylindrical: *furrows narrower than the thickened rhachis:* bracts lanceolate-subulate; *calyx* 2-*dentate.*—*Sl. t.* 107. *f.* 1. *Desc. Fl.* 6. *t.* 692.—Verbena, *L.* S. indica, *V.*—2′–4′ high; spikes often 1′ long, rhachis 2‴ diam. below; calyx 2‴–3‴ long; corolla blue: limb 4‴ diam.—HAB. Bahamas!, *Swains.;* Jamaica!, *Dist.*, *March;* S. Kitts!, *Els.*, Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Lockh.*, *Sch.;* [Cuba! to Brazil!; naturalized in trop. Africa! and Asia!].

7. **S. strigosa,** *V.* *Annual,* suffruticose, pilose; leaves oval, serrate, contracted into the petiole; spikes elongated, cylindrical: *furrows narrower than the thickened rhachis:* bracts lanceolate-subulate; *calyx* 4-*dentate.*—1′–2′ high; spikes of the preceding, often incurved above, but corolla smaller, diameter of the limb 3‴–2‴.—HAB. Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [S. Thomas; Mexico!].

8. **S. mutabilis,** *V.* Suffruticose, scabrous-pubescent; leaves ovate, serrate, contracted into the petiole, scabrous above, pubescent beneath; spikes elongated, erect: *furrows at length narrower than the thickened rhachis: bracts* lanceolate-subulate, *spreading above the middle;* calyx 4-dentate, hispid; *corolla large, red.*—*Jacq. Ic. Rar. t.* 207.—Verbena, *Jacq.*—Stout; calyx 5‴–6‴ long; corolla crimson, at length rosy: limb 6‴–8‴ diam.—HAB. Jamaica!, *Pd.*, in the mountains of S. Andrews, probably introduced; Trinidad!, *Cr.;* [Cuba and Mexico! to Guiana!].

6. LIPPIA, *L.*

Calyx 2–4-dentate. *Corolla* 2-lipped: limb spreading. *Stamens* included, didynamous: anther-cells parallel. *Stigma* obliquely capitate. *Fruit* 2-coccous, or the two one-seeded nutlets cohering.—Herbs or shrubs; flowers *capitate or spicate.*

In *Zapania,* the section of the genus comprising our species, the primary leaf-veins run alternately with the serratures (as in *Rhinanthus*): the network in *Lantana* is similar.

* ***Annual, diffuse herbs; peduncles short.***

9. **L. betulifolia,** *Kth.* Annual, diffuse-procumbent, eglandular; down scattered, appressed, affixed at the middle; leaves rhomboid-ovate, coarsely serrate; *peduncles* axillary, fascicled or single, *about as long as the conical-oblong, blunt head,* usually *exceeded by the petiole;* bracts wedge-shaped, abruptly cuspidate: awn little exceeding the small, rosy corolla; *calyx minute,* 2-dentate, about *half as long as the corolla.*—*Mart. Fl. Bras.* 10. *t.* 38. *f.* 1.—Leaves 1½″–1″, heads 4‴, corolla ½‴ long.—HAB. Trinidad!, *Pd.*, *Cr.*, a weed, in canefields; [Guiana!, New Granada!, Brazil!].

** *Radicant, herbaceous, or suffruticose plants; peduncles long.*

10. **L. nodiflora,** *Rich.* Annual, radicant, herbaceous (or suffrutescent); down of the stem appressed, affixed at the middle; leaves spathulate, serrate above, glabrescent: *veins obsolete;* heads ovoid, at length oblong: peduncles axillary, single, usually exceeding the leaf: bracts ovate-roundish, cuneate at the base, mucronate (or rounded), little exceeded by the white corolla; *calyx bifid on the upper, bipartite on the lower side,* little shorter than the corolla-tube.—*Sibth. Fl. Græc. t.* 553: the European form with rounded bracts.—Verbena, *L.* Zapania, *Lam.*—Leaves usually 1″, flowering heads 3‴–4‴, corolla 1½‴ long.

—HAB. Bahamas!, *Swains.*; Jamaica!, all coll., a sea-side plant; Antigua!, *Nichols.*; [Bermudas! and southern United States to Buenos Ayres!; Spain! and Transcaucasia to the Cape!].

11. **L. reptans,** *Kth.* Suffrutescent, radicant below; down appressed, affixed at the middle; *leaves* spathulate, serrate above, *penninerved;* heads ovoid-globose, at length oblong: peduncles axillary, single, as long as or exceeding the leaves: bracts ovate-roundish, cuneate at the base, pointleted, about as long as the whitish corolla; *calyx bicarinate-compressed, bidentate,* ciliate along the keels, little shorter than the corolla-tube.—Leaves 1½″–1″, flowering heads 3‴–4‴, corolla 2‴ long.—HAB. Jamaica!, *March;* Antigua!, *Wullschl.*; [Haiti to Guadeloupe!; Mexico! to Brazil].

**** Erect or diffuse shrubs, aromatic by glands.*

12. **L. micromera,** *Schau.!* Shrubby; branches slender, glandular-hispidulous; *leaves small, spathulate oblong* or elliptical-oblong, *subentire or minutely few-serrate* near the top, strigose above, hispidulous beneath; heads subglobose: *peduncles* axillary, *as long as the short petiole:* bracts oval, little exceeded by the "white and variegated" corolla; calyx bifid, shorter than the corolla-tube.—Gardoquia origanoides, *Reichenb. in Sieb. Trin.* 86!—Leaves 3‴–6‴, flowering heads 3‴–4‴, corolla 1½‴ long.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Sieb.*; [Cuba, Haiti! to Guiana!].

13. **L. geminata,** *Kth.* Shrubby; branches virgate, hispidulous-pubescent; *leaves ovate or ovate-oblong, serrulate,* rugose, scabrous-hispidulous, usually hoary-tomentose beneath: serratures usually bluntish; heads subglobose, at length shortly oblong: *peduncles* 1(–2) in the axils, *as long as the petiole or shorter than the leaf:* bracts ovate, pointleted or pointed, little exceeded by the violet corolla; *calyx* small, bifid, *one-third as long as the corolla-tube.*—Flowering heads 6‴ diam.; corolla-tube 2‴ long.

α. Leaves pointed, 2½″–1″ long; peduncles 2‴–5‴ long, equalling the petiole; bracts pointleted.

β. *Lockhartii.* Leaves pointed, 2″–3″ long; peduncles 6‴–12‴ long, usually much exceeding the petiole; bracts pointed.—Lantana Lockhartii, *Don!*—The nutlets in maturity separate just as in α: I find no difference in a Brazilian specimen, nor in the figure of *L. Chamissonis,* Schau. (Fl. Bras. 10. t. 37. iii.), the flowers of which, however, are said to be white.

γ. *microphylla.* Leaves blunt, 12‴–6‴ long; peduncles 2‴–10‴ long, usually exceeding the petiole; bracts broad, mucronate.—Lantana lippioides. *H. A.!*

HAB. Bahamas!, *Hjalmars.*, Turk islands (γ); Trinidad!, *Lockh.*, *Cr.* (α, β, γ); [α, Guadeloupe!, Texas! to Buenos Ayres!; γ, Cuba! to Guadeloupe!, Mexico! to Peru!].

14. **L. stœchadifolia,** *Kth.* Shrubby, strigose; branches virgate; *leaves lanceolate-linear, serrate, plaited along the primary veins,* hoary-pubescent beneath: serratures mucronate; heads subglobose, at length oblong: *peduncles* long, axillary, *exceeding or equalling the leaf:* bracts roundish-mucronate, exceeded by the "blue or rosy" corolla; *calyx* compressed, *bidentate, half as long as the corolla-tube.*—*Br. Jam. t.* 3. *f.* 3.—Verbena, *L.* Zapania, *Pers.*—5′–6′ high; leaves 2½″–1″, flowering heads 4‴, corolla 2‴ long.—HAB. Jamaica!, all coll., along roads; [Cuba! to Guadeloupe!; Mexico! to Guiana].

7. LANTANA, *L.*

Character of *Lippia,* but calyx minutely 4–2-dentate, small, at length excrescent, and fruit drupaceous: drupe with a 2-celled endocarp.—Aromatic shrubs (rarely herbaceous); leaves *penninerved, rugose, rough;* heads *peduncled, axillary.*

Sect. 1. CAMARA, *Cham.*—*Cells of the putamen remote, with an intermediate cavity.*—Shrubs, usually prickly.

15. **L. Camara,** *L.* Leaves ovate or ovate-oblong, pointed, serrate, hispid above, pubescent or glabrescent beneath, about as long as the peduncles; *heads flattish,* exinvolucrate: *bracts lanceolate, half as long as the corolla-tube; corolla yellow, changing into red.*—*Sl. t.* 195. *f.* 2. *Desc. Fl.* 4. *t.* 304.; 5. *t.* 370.—L. aculeata, *L.*—6′–10′ high; leaves 2″–4″, corolla-tube 3‴ long; drupes shining-black, 3‴–2‴ diam.—HAB. Bahamas!,

Swains.; Jamaica!, *Al.*, *Wullschl.*, common; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sch.*, *Lockh.*; [Cuba! and Mexico! to Buenos Ayres!].

16. **L. crocea,** *Jacq.* Leaves ovate, pointed, serrate, hispid above, pubescent or glabrescent beneath, usually shorter than the long peduncles; *heads flattish*, exinvolucrate: *bracts linear-acuminate, mostly one-third as long as the corolla-tube; corolla yellow, changing into orange.—Jacq. Schœnbr. t.* 473.—Leaves 1″–3½″, corolla-tube 4‴ long; drupes 2‴ diam.—Hab. Bahamas; Jamaica!, *March*; S. Vincent!, *Guild.*; [Haiti! to Guiana!].

Sect. 2. Callioreas, *Cham.—Cells of the putamen contiguous.*—Unarmed shrubs.

* *Heads subglobose or flattish.*

17. **L. involucrata,** *L.* Leaves small, oval or ovate, blunt, crenate, pubescent, as long as or shorter than the peduncles; *heads subglobose: involucral bracts broadly ovate, as long as the flowers*, interior ovate-roundish, half as long as the corolla-tube; *corolla* "*lilac:* throat yellow."—Leaves 12‴–6‴(–3‴), corolla-tube 1½‴–2‴ long; drupes 1‴ diam.—Hab. Bahamas!, *Swains.*; Jamaica!, *Al.*, *March*, in savannahs; [Cuba! to Guadeloupe!; Panama!].

18. **L. odorata,** *L.* Leaves ovate or oval, bluntish or blunt, crenate, pubescent, about as long as the peduncles; *heads subglobose: involucral bracts ovate-lanceolate, as long as the exterior flowers*, interior ovate, half as long as the corolla-tube; *corolla* "*pale lilac.*" —*Plum. Ed. Burm. t.* 71. *f.* 2. *Jacq. Schœnbr. t.* 360.—L. recta, *Ait.* L. peduncularis, *Anders.!*: a form with longer peduncles.—Leaves 2″–6‴, corolla-tube 2‴ long; drupes 1‴ diam.—Hab. Jamaica!, all coll.; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sieb. Tr.* 117; [Bermudas!; Cuba! to Guadeloupe!; Honduras!; Galapagos!].

19. **L. reticulata,** *Pers.* Leaves ovate, bluntish, crenate, pubescent, usually shorter than the peduncles; *heads* flattish, *at length hemispherical: involucral bracts broadly ovate-deltoid, exceeded by the flowers*, interior ovate, little shorter than the corolla-tube; *corolla white.—Sl. t.* 194. *f.* 2.—L. involucrata, *Sw.*—Leaves ½″–2″, slender corolla-tube 3‴–2‴ long; drupes rugose, 1½‴ diam.—Hab. Jamaica!, *Pd.*, *March*, Pedro plains; [Cuba!, Haiti!; Venezuela!].

** *Heads at length longer than broad.*

20. **L. stricta,** *Sw.* *Leaves ovate-lanceolate*, ovate-acuminate or lanceolate-acuminate, *rounded above the cuneate base*, crenate, hispidulous or glabrescent above, hoary-pubescent beneath, as long as or shorter than the peduncle; *heads hemispherical, at length ovoid-oblong*, exinvolucrate: *bracts ovate-lanceolate* (or ovate), shorter than the corolla-tube, exterior usually larger; *corolla rosy-lilac*, much longer than the minute calyx.—*Sl. t.* 195. *f.* 4.—Drupes 1½‴ diam.

α. Leaves lanceolate-acuminate; corolla-tube 2‴–3‴ long.

β. *lilacina*, Desf. Leaves ovate-acuminate; corolla-tube 3‴–4‴ long.—*Mart. Fl. Bras.* 10. *t.* 44. *f.* 1.

Hab. Jamaica!, all coll. (α, β); [Mexico! to Brazil!].

21. **L. Radula,** *Sw.* *Leaves ovate* or ovate-roundish, *blunt, rounded above the cuneate base*, crenate, bullate-hispid above, pilose beneath, as long as or shorter than the peduncles; *heads subglobose, at length shortly oblong*, exinvolucrate: *bracts ovate* or ovate-roundish, *mucronate* or cuspidate, shorter than the corolla-tube; *corolla rosy* (or white).—Leaves 1″–2″, corolla-tube 2‴ long.—Hab. Dominica, S. Vincent!, *Anders.*; Trinidad!, *Sieb. Tr.* 168; [Brazil!].

22. **L. trifolia,** *L.* *Leaves elliptical* or elliptical-oblong, *pointed, cuneate-tapering at the base*, serrate, hispidulous or hoary-pubescent beneath, often whorled, as long as or usually exceeding the peduncles; *heads ovoid-globose, at length oblong*, exinvolucrate: *bracts subulate*, shorter than or equalling the corolla-tube; *corolla rosy-lilac* (or white): *throat yellow.—Sl. t.* 195. *f.* 3.—L. annua, *L.*—Leaves 5″–2″, corolla-tube 3‴ long; drupes 1½‴ diam.—Hab. Jamaica!, all coll., in the mountains; S. Vincent!, *Guild.*; Trinidad!, *Sch.*, *Cr.*; [Cuba! and Veraguas! to Brazil!].

8. CITHAREXYLUM, *L.*

Calyx truncate–5(–7)-dentate. *Corolla* salver-shaped, subequal. *Stamens* included, 5, or one of them abortive. *Stigma* blunt. *Drupe* 2-pyrenous: pyrenæ 2-celled or 1-celled by abortion.—Shrubs *or* trees; flowers *odorous, white or yellow, in spiciform racemes or spikes;* corolla *often villous within.*

* *Flowers subsessile.*

23. **C. subserratum,** *Sw.!* *Branches* 4-gonal, *at length striate-cylindrical; leaves rigid,* obovate-oblong, blunt, glabrous, repand-entire: *network of veins prominulous on both sides;* spiciform racemes short, lax, nodding; *calyx* subsessile, *unequally* 5-*dentate, longer than half the corolla-tube;* fertile stamens 4; "drupe red, obovate-roundish."—A shrub, 12′ high; leaves 3″–2″, racemes 2″–3″, calyx 1½‴, corolla-tube 2‴ long.—Hab. Jamaica!, *March;* [Haiti!, in savannahs].

24. **C. quadrangulare,** *Jacq.* (*non Schau.*). *Branches permanently* 4-*gonal; leaves chartaceous, at length rigid,* elliptical-oblong or elliptical, usually bluntish, glabrous or glabrate beneath: *network of veins at length prominulous on both sides;* spiciform racemes elongated, lax, nodding; *calyx* subsessile or shortly pedicellate, *subtruncate, half as long as the corolla-tube:* pedicels shorter than the bract; fertile stamens 4; drupe "black."—*Sl. t.* 200. *f.* 3, 4.—C. caudatum, *Sw.* (*non L.*). C. coriaceum, *Desf.*—A tree, 20′–60′ high; leaves 7″–2″, racemes usually 6″–12″, calyx 1‴ long; flowers white.—Hab. Jamaica!, *March, Wils.*, in savannahs along the coast; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* [Guadeloupe!; Guiana!].

25. **C. cinereum,** *L.* *Branches* 4-gonal, *at length striate-cylindrical; leaves chartaceous, at length rigid,* elliptical-oblong, lanceolate-oblong, or elliptical, usually blunt, glabrous or glabrate beneath: *network of veins at length prominulous on both sides;* spiciform racemes elongated, lax, nodding; *calyx* subsessile, *unequally lobed at the summit, half as long as the corolla-tube;* fertile stamens 4(–5); drupe subglobose, red, at length black.—*Jacq. Amer. Pict. t.* 178.—A tree, 15′–20′ high; leaves 6″–2″, racemes usually 6″–10″, calyx 1½‴ long; flowers white.—Hab. Jamaica!, *Wils., Dist., March,* in savannahs; Trinidad!, *Cr.;* [Cuba! to Martinique].

** *Pedicels longer than or as long as the bracts.*

26. **C. lucidum,** *Cham., Schlecht.!* *Branches* 4-gonal, *at length cylindrical; leaves membranaceous, at length chartaceous,* elliptical-oblong, lanceolate-oblong, or elliptical, usually bluntish, glabrous, *shining-polished above; racemes* slender, lax, *slightly nodding:* pedicels often as long as the calyx; calyx subtruncate, two-thirds as long as the corolla-tube; stamens 4(–5); *drupe subglobose,* black.—C. quadrangulare, *Schau.! ex Sieb. Mart.* 156. C. lævigatum, *Hostm. Pl. Exsicc.!* C. caudatum, *Seem. Panam.!*—A tree; leaves 5″–2″, racemes 2″–5″, calyx 1½‴–1‴, corolla-tube 2‴–1½‴ long; flowers white; drupe 3‴ diam.—Hab. Jamaica!, *Wullschl.*, rare; [Cuba! to Martinique!; Mexico!, Panama!, Guiana!].

27. **C. surrectum,** *Gr.* (*n. sp.*). *Branches* 4-gonal, *early striate-cylindrical; leaves chartaceous, at length leathery,* oblong-lanceolate or elliptical-oblong, bluntish, glabrous, *shining-polished above,* archveined beneath; *racemes* single, slender, *nodding, in fruit erect:* pedicels shorter than the calyx, longer than the bract; *calyx* subtruncate, *as long as the corolla-tube;* stamens 4; *drupe subglobose,* black.—Allied to *C. pentandrum, Vent.*, which has permanently 4-gonal branches, and is hairy. Leaves 6″–2″, racemes 6″–2″, calyx 2‴ long; corolla-tube as long as the puberulous limb, densely hispid within; drupe 4‴ diam.—Hab. Jamaica!, *M'Nab, March,* Port Royal; Antigua!, *Wullschl.*

28. **C. caudatum,** *L.* *Branches* obsoletely 4-gonal, *early striate-cylindrical; leaves chartaceous, at length leathery,* elliptical-oblong or oblong, *bluntish,* glabrous, *polished above,* archveined beneath: *racemes* often compound at the base, *rigid, erect:* pedicels approximate, shorter than the calyx, spreading: *calyx campanulate,* subtruncate, one-half to two-thirds as long as the corolla-tube: stamens 4; *drupe ovoid-oblong,* black.—*Br. Jam. t.* 28. *f.* 2.—A shrub, 10′–12′ high (*P. Br.*), leaves 5″–3″, racemes 8″–4″, calyx 1½‴,

drupe 4‴ long; corolla-limb puberulous.—HAB. Jamaica!, all coll., in high mountains, S. Thomas i. V.

29. **C. Berterii,** *Spreng.* *Branches* obsoletely 4-gonal, *early striate-cylindrical; leaves chartaceous,* lanceolate or oblong-lanceolate, *acuminate,* glabrous, *polished above,* archveined beneath; *racemes* compound at the base, slender, *erect,* lateral ascending: pedicels numerous, as long as the calyx; *calyx obconical,* minutely denticulate-repand, one-half to two-thirds as long as the corolla-tube; stamens 4; *drupe obovoid-globose,* black.—Leaves 5″–3″ long, 12‴–6‴ broad; racemes 5″–8″, calyx $\frac{2}{3}$‴–1‴, drupe 3‴ long; flowers scarcely half as long as in the preceding: corolla-limb ciliate, glabrous on the back; anthers ovoid-roundish.—HAB. Jamaica!, *Macf.*: [Cuba!].

9. DURANTA, *L.*

Calyx 5-dentate, at length enlarged, enclosing the drupe. *Corolla* salver-shaped: limb slightly unequal. *Stamens* didynamous, included. *Stigma* blunt. *Drupe* 4-pyrenous with 2-celled pyrenæ, or endocarp at length 8-celled.—Shrubs; flowers *blue, in compound* (*or simple*) *racemes;* corolla-tube *exserted, pubescent at the throat.*

30. **D. Plumieri,** *Jacq.* *Leaves chartaceous,* elliptical-lanceolate, elliptical, or obovate-roundish; calyx tubular: teeth mucronate or subulate: limb produced into a beak above the included, globose drupe; *corolla-tube shortly exserted.*—*Br. Jam. t.* 29. *f.* 1. *Jacq. Amer. Pict. t.* 179. *Desc. Fl.* 7. *t.* 488.—D. Ellisia, *Jacq.* Ellisia acuta, *L.*—A shrub, 6′–15′ high, unarmed or spiny; leaves serrate or entire, whorled or opposite, glabrous or pubescent; corolla-tube 4‴–3‴ long.—HAB. Bahamas!, *Swains.*; Jamaica!, all coll., in savannahs and sunny places; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sch.*, *Cr.*; [Cuba! and Mexico! to Brazil].

10. PETREA, *L.*

Calyx coloured: limb double, exterior large, 5-partite, excrescent in fruit, at length scarious, reticulated-veiny, interior minute, 5-dentate. *Corolla* infundibular. *Stamens* 4, included. *Stigma* blunt. *Achenium* 2(–1)-celled, 1-seeded by abortion of the ovule of the second cell.—Woody, scabrous plants, *usually climbing;* flowers *blue, in lax racemes:* pedicels *clavate at the summit.*

31. **P. volubilis,** *Jacq.* Climbing; leaves rigid, elliptical or elliptical-oblong, rounded at the base, shining above: petiole very short; raceme terminal, elongated: pedicels continuous with the calyx; *calyx-tube smooth, scabrous, one-fourth to one-half as long as the pedicel,* in fruit one-third to one-fourth as long as the spathulate-oblong or oblong-linear exterior lobes; corolla included.—*Jacq. Amer. Pict. t.* 173.—Leaves 2″–5″, calyx-tube 3‴–2‴, exterior lobes at length 10‴–6‴ long.—HAB. S. Kitts!, Antigua!, *Wullschl.*, Dominica!, *Finl.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.*, in woods; Trinidad!, *Sieb.*; [Cuba to Martinique!, *Sieb. Mart.* 157; Veraguas! to Brazil].

32. **P. arborea,** *Kth.* Arborescent; leaves rigid, elliptical-oblong or lanceolate-oblong, minutely rounded at the base, shining above: petiole very short; racemes axillary, nodding: pedicels continuous with the calyx; *calyx-tube smooth, densely hispidulous, as long as or two-thirds as long as the pedicel,* in fruit one-fourth as long as the spathulate exterior lobes; corolla included.—Schauer's description disagrees by longer pedicels, but E. Otto's specimen (quoted by him) is identical with our plant. A tree or shrub; leaves 3″–5″(–7″), calyx-tube 2‴, exterior lobes at length 9‴–7‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*; [Mexico!, Guatemala!, Venezuela!, Peru].

TRIBE II. *VITICEÆ.*—*Ovules suspended.*—Flowers cymose.

11. CALLICARPA, *L.*

Calyx 4(–5)-dentate, rarely 4-fid. *Corolla* shortly infundibular, equal. *Stamens* 4(–5), exserted. *Stigma* thickish, emarginate, with the lobes subtruncate. *Drupe* 4-pyrenous:

pyrenæ 1-seeded.—Leaves *simple:* down *stellate;* glands *minute, sessile, shining;* cymes *dichotomous, axillary:* flowers *small, often polygamous.*

33. **C. ferruginea,** *Sw.* Shrubby; branches tomentose; *leaves* lanceolate-oblong, acuminate, tapering into the petiole, *serrate, densely glandular beneath,* usually almost glabrate: scurfy down persistent on the midrib (or on all veins); cymes many-flowered, as long as or exceeding the petiole; calyx glabrescent, glandular, 4-mucronate-truncate, half as long as the bluish-white corolla; drupe subglobose, red.—4′–6′ high; leaves 6″–3″, calyx 1‴ long; drupes 2‴ diam.—Hab. Jamaica!, *Macf., Pd., Hartw., M'Nab,* in mountain-woods, Port Royal; [Cuba!].

34. **C. reticulata,** *Sw.* Shrubby; branches white-tomentose; *leaves* elliptical or oblong, bluntish, rounded at the base, *subentire,* powdery or glabrate and rugose above, *white-tomentose beneath* with the network of veins prominent; cymes many-flowered, half as long or as long as the leaves; *calyx white-tomentose,* with bluntish teeth, half as long as the powdery corolla, enlarged and splitting around the globose, powdery drupe.—Leaves 20‴–12‴, calyx 1‴ long; drupes 1½‴ diam.—Hab. Jamaica, *Wright;* [Cuba!].

12. ÆGIPHILA, *Jacq.*

Flowers mostly diœciously polygamous. *Calyx* shortly dentate or lobed or truncate. *Corolla* salver-shaped or infundibular, subequal: tube slender, usually exserted: lobes 4(–5). *Stamens* 4(–5), equal, in ♂ exserted. *Stigma* bifid: lobes hair-shaped or linear, pointed, in ♀ exserted. *Drupe* at length 4-pyrenous, or 3–1-pyrenous by abortion: pyrenæ 1-seeded.—Woody plants; leaves *simple, subentire, glandular beneath:* petiole *jointed near the base;* cymes *trichotomous or contracted, axillary or paniculate-terminal.*

* *Cymes few-flowered, all axillary.*

35. **A. trifida,** *Sw.* *Branches* cylindrical, *glabrate; leaves* leathery, elliptical-lanceolate, pointleted, *shining-glabrous, tapering into the short petiole; cymes* axillary, *contracted,* usually *3-flowered:* peduncle as long as or twice as long as the petiole; *calyx leathery, clavate-cylindrical,* much longer than the pedicel, 4-dentate, at length splitting; corolla whitish: lobes lanceolate; drupe ovoid-oblong, included by the cupulate, thickened calyx.—A shrub; leaves 2½″–4″, calyx 2‴, in fruit 4‴, corolla-tube 4‴, lobes 2‴ long.—Hab. Jamaica!, *Macf., Pd.,* in the mountains of Port Royal.

36. **A. fœtida,** *Sw.* *Branches* cylindrical, *densely pilose and glandular; leaves* chartaceous, oblong, bluntish, glabrescent, *pilose on the midrib beneath, rounded at the shortly petioled base; cymes reduced into a subsessile, 3-flowered glomerule,* axillary or opposite along subaphyllous branchlets; *calyx hispid, membranaceous, obconical-campanulate,* truncate–4-mucronate, much shorter than and lax around the corolla-tube; corolla yellowish: lobes lanceolate; drupe ovoid-oblong, twice as long as the cupulate, thickened calyx.—A slender or low shrub with narcotic smell: all our specimens are ♀; leaves 2″–4″, calyx 1½‴, filiform corolla-tube 6‴–8‴, lobes 3‴, red drupe 4‴ long.—Hab. Jamaica!, *Al., Pd., Dist., March,* in stony mountains, S. Anns.

** *Cymes many-flowered, axillary, or all opposite in the panicle.*

37. **A. arborescens,** *V.* *Branches 4-gonal, sericeous; leaves* chartaceous, obovate-oblong, pointed, glabrescent above, appressed-puberulous beneath, *long-tapering into the petiole;* cymes many-flowered, contracted-corymbose, axillary, shortly peduncled or subsessile, or uppermost opposite in a pyramidal panicle; *calyx sericeous, clavate-infundibular,* 4-dentate, upper part lax around the corolla-tube; corolla whitish: lobes lanceolate; drupe "obovate, included by the calyx."—*Jacq. Amer. Pict. t.* 259. *f.* 6: the ♂ flower. *Aubl. t.* 24.—Manabea, *Aubl.* Callicarpa integrifolia, *Jacq.*—A low tree, about 12′ high; leaves 12″–4″ long, distantly archveined beneath; calyx 3‴–4‴, corolla-tube 4‴–6‴, lobes 2‴–1½‴ long; drupe "size of a pea, green, yellow at the base."—Hab. Trinidad!, *Lockh., Cr.,* universal on abandoned land; [Venezuela, Guiana!, equat. Brazil!, Peru!].

*** *Cymes many-flowered, trichotomous, ultimate terminal.*

38. **A. lævis,** *W.* Branches subcylindrical, glabrate; *leaves chartaceous, elliptical-*

oblong or elliptical, pointed at both ends, glabrescent; cymes trichotomous, corymbiform, most terminal on short branchlets; *calyx* membranaceous, glabrous, *infundibular above a hemispherical base, repand-entire,* lax around the twice as long corolla-tube; corolla "yellow," infundibular: lobes ovate-lanceolate; drupe "oblong."—*Aubl. t.* 25. Manabea, *Aubl.* —A shrub, confounded with the two following species, distinguished by smaller leaves and the calyx. Leaves 1″–2″(–4″), calyx in flower 1‴, corolla-tube 2‴, lobes 1½‴ long.—HAB. Trinidad!, *Lockh., Cr.,* on hilly, abandoned land; [Venezuela!, Guiana!].

39. **A. martinicensis,** *L.* Branches 4-gonal or subcylindrical, glabrate; *leaves chartaceous,* large, *lanceolate-oblong* or ovate-lanceolate, acuminate or pointleted, acute at the base, glabrous; cymes trichotomous, corymbiform, terminal or in a terminal panicle; *calyx* membranaceous, glabrous, *turbinate-infundibular, acute at the base, truncate,* lax around the twice as long corolla-tube; corolla "white," infundibular: lobes ovate, blunt; drupe ovoid-globose, thrice as long as the spreading calyx.—*Lam. Ill. t.* 70. *f.* 1.—A. glabra, *Lam.* A. Manabea, *Sw.* (*exclus. syn. Aubl.*).—A shrub; leaves 8″–4″, calyx 1‴, corolla-tube 2‴–2½‴, lobes 1‴, red drupe 4‴–6‴ long.—HAB. Jamaica (*Sw.*); Antigua!, *Wullschl.,* Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 85; [Cuba and Panama! to Guiana!].

40. **A. elata,** *Sw.* Branches subcylindrical, glabrate; *leaves leathery, ovate-oblong,* with a bluntish point, bluntish or rounded at the base, glabrous: petiole thickish at the persistent base; cymes trichotomous, corymbiform, most terminal or paniculate; *calyx herbaceous, turbinate-infundibular, acute at the base* or subconstricted above it, *shortly 4-lobed,* lax around the twice as long corolla-tube; corolla "yellowish:" lobes oblong, blunt, spreading; drupe subglobose, twice as long as the cupulate calyx.—*Br. Jam. t.* 3. *f.* 3.—An erect or scandent shrub, 20′–6′ high; leaves 6″–3‴(–8″), calyx 1½‴–2‴, corolla-tube 3‴–4‴, lobes 2‴ long; drupe yellow, 4‴ diam.—HAB. Jamaica!, all coll., common; Trinidad!, *Cr.;* [Cuba! to Guiana! and equat. Brazil].

13. CLERODENDRON, *L.*

(Volkameria, Ovieda, Siphonanthus, *L.*)

Calyx 5-fid or 5-dentate, rarely truncate. *Corolla* salver-shaped or infundibular: tube slender: lobes 5, slightly unequal. *Stamens* 4, exserted, unequal. *Stigma* shortly bifid: lobes pointed. *Drupe* of *Ægiphila,* or pyrenæ cohering in pairs.—Leaves *simple:* petiole *jointed near the base;* cymes *trichotomous or contracted.*

41. **C. aculeatum,** *Gr.* *Branches* rusty-puberulous, *armed with* short, subconical, *spreading spines,* left by the fallen-off petioles; *leaves* chartaceous, glabrescent, elliptical or elliptical-lanceolate, *entire,* tapering into the petiole; *cymes axillary, peduncled,* 7–3-flowered: pedicels spreading; calyx shortly 5-fid, much shorter than the corolla: lobes ovate, deltoid; corolla-lobes oblong, about one-third as long as the tube; drupe globose, 2-pyrenous: pyrenæ 2-celled.—*Sl. t.* 166. *f.* 2, 3. *Br. Jam. t.* 30. *f.* 2. *Jacq. Amer. Pict. t.* 177.—Volkameria, *L.*—A shrub, 5′–12′ high; spines 1‴–2‴, leaves 2″–1″, calyx 1½‴, corolla-tube 8‴–10‴ long; flowers white, long-exserted stamens purple.—HAB. Jamaica!, *Macf., Pd., March,* common in gravelly soil; S. Kitts!, Antigua!, *Nichols., Wullschl.,* Dominica!, *Finl., Imr.,* S. Vincent!, *Guild.;* [Cuba! to Guiana!, equat. Brazil].

42*. **C. fragrans,** *W.* Pubescent, unarmed; *leaves* ovate-deltoid, *unequally dentate,* long-petioled; *cyme terminal, subsessile,* contracted; calyx 5-fid, little exceeded by the corolla-tube: lobes lanceolate-acuminate; corolla-lobes obovate-roundish.—*Vent. Malm. t.* 70.—Volkameria japonica, *Jacq.*—A shrub; flowers rosy, usually double in the naturalized plant.—HAB. Naturalized in Antigua!, *Wullschl.;* [and from Cuba! to Brazil, introduced from China].

43*. **C. Siphonanthus,** *R. Br.* Suffruticose, erect, glabrous; *leaves* whorled, oblong-linear or lanceolate, acuminate, *entire, subsessile; cymes in a* large, lax, terminal *panicle:* pedicels spreading; *calyx* deeply 5-fid, *much shorter than the filiform, curved corolla-tube:* lobes ovate, pointed; corolla-lobes obovate and oblong, about one-eighth as long as the tube; drupe globose, shining.—*Lam. Ill. t.* 79. *f. sup.*—C. longicolle, *Mey.* Ovieda mitis, *L.* Siphonanthus indicus, *L.*—Leaves 10″–3″ long; corolla white: tube 3″–4″ long: drupe

4‴ diam.—HAB. Naturalized in S. Kitts!, Trinidad!, *Cr.*, [and Guiana!, introduced from the East Indies].

14. AMASONIA, *L. fil.*

Character of *Clerodendron*, but short corolla-limb 2-lipped.—Stem *simple, suffruticose; most* leaves *scattered;* cymes *subsessile, few(-1)-flowered, in a simple raceme;* corolla *yellow:* tube *clavate.*

44. **A. erecta,** *L.* Stem hispidulous; *leaves flaccid*, spathulate-oblong or elliptical-oblong, unequally serrate or repand, long-tapering towards the subsessile base: *down flaccid*, disappearing; *calyx* one-third as long as the corolla: *lobes ovate-lanceolate, acuminate: sinus not plaited.—Aubl. t.* 252.—Tachigalea campestris, *Aubl.* A. punicea, *Schau.* (*non V.*).—1½′-3′ high; floral leaves coloured, elliptical, often as long as the 3-flowered cymes; calyx 4‴, corolla 1″ long.—HAB. Trinidad!, all coll., in savannahs; [Venezuela! to Brazil!].

45. **A. punicea,** *V.* Stem rigid, hispidulous; *leaves* somewhat *rigid*, obovate-oblong or spathulate-oblong, unequally dentate or dentate-repand, tapering at the base: *down hispidulous* or disappearing; cymes 3-1-flowered; *calyx* one-fourth as long as the corolla: *lobes subulate-mucronate: tube shortly plaited at the sinus.*—1½′-2′ high, subaphyllous above the middle; floral leaves obovate or spathulate-lanceolate, about as long as the pedicels; calyx 3‴, corolla 1″ long: calyx-lobes passing abruptly into a half as long, ciliate point.—HAB. Trinidad!, *Sch., Cr.*, in savannahs, Piarco.

15. CORNUTIA, *L.*

Calyx 4-5-dentate-repand. *Corolla* 2-lipped: upper-lip subentire, inferior 3-lobed. *Stamens* 2, fertile, shortly exserted: anthers didymous. *Stigma* emarginate: lobes bluntish. *Drupe* with the endocarp 4-celled, or 3-1-celled by abortion, perforated in the axis.—Fragrant shrubs; leaves *simple;* cymes *dichotomous, in a large, racemiform panicle:* flowers *blue.*

46. **C. pyramidata,** *L.* Puberulous; branches virgate, sharply 4-gonal; *leaves* broadly elliptical, apiculate, cuneate at the base, *hoary subtomentose beneath; calyx* cupuliform, subtruncate, *tomentose:* teeth minute or obsolete; corolla puberulous, much longer than the calyx: tube clavate-cylindrical; *style included;* drupe puberulous, glabrescent.—*Plum. Ed. Burm. t.* 106. *f.* 1.—Leaves 3″-5″, calyx ⅔‴, light-blue corolla 6‴ long.—HAB. Dominica!, *Imr.*, S. Lucia!, *Anders.*, S. Vincent!, *Guild.;* [Haiti! to French islands!, *Sieb. Mart.* 158].

47. **C. punctata,** *W.* Branches 4-gonal, glabrescent; *leaves* broadly elliptical, with a bluntish point, cuneate at the base, glabrescent, *glandular-dotted and pubescent on the primary ribs beneath; calyx* cupuliform, subtruncate, *puberulous:* teeth 4-2, distant, inferior larger; corolla puberulous: tube cylindrical, 3-4 times as long as the calyx, twice as long as the lower lip; *style exserted;* drupe rugose, glandular-powdery.—*Jacq. Schœnbr. t.* 114. Hosta cærulea, *Jacq.*—Leaves 4″-2″, calyx ⅔‴, corolla (the lips included) 4‴ long. —HAB. Jamaica!, *March, Wullschl.*

16. PETITIA, *Jacq.*

Calyx 4-dentate. *Corolla* shortly salver-shaped, 4-lobed, equal. *Stamens* 4, equal, subincluded or shortly exserted. *Stigma* in ♀ shortly bifid with filiform lobes, in ♂ thin, emarginate *Drupe* with the endocarp 4-celled, or 2-celled by abortion, perforated in the axis.—Trees *or* shrubs; leaves *entire, reticulated-veiny beneath, 1-foliolate:* the petiole *jointed above;* cymes *in trichotomous, axillary panicles:* flowers *small, polygamous.*

48. **P. domingensis,** *Jacq.* *Leaves* elliptical or elliptical-oblong, pointed, *powdery-tomentose beneath* with rusty down; panicles as long as or shorter than the leaves; *corolla-tube as long as the calyx or shortly exserted;* drupe obovoid or subglobose, small, 2-celled by abortion.—*Jacq. Amer. Pict. t.* 259. *f.* 5: a leaf.—Citharexylum melanocardium, *Sw.* Premna reticulata, *Juss.* Callicarpa ampla, *Schau. sec. Macf.:* but in Schauer's description

the anthers of his plant are said to be long-exserted.—A tree (or shrub); leaves 6″–3″, petioles 2″–1″, calyx 1‴, black-purple drupe 2‴ long.

α. Leaves elliptical-oblong: petiole jointed at the top.

β. *jamaicensis.* Leaves broadly elliptical: petiole jointed below the top.

HAB. Jamaica!, all coll. (α, β); [Haiti!, Portorico!].

17. VITEX, *L.*

Calyx 5-dentate or 5-fid. *Corolla* 2-lipped: upper lip 2-, inferior 3-lobed. *Stamens* didynamous, exserted. *Stigma* bifid: lobes pointed. *Drupe* with the endocarp 4-celled or 2-celled by abortion.—Woody plants; *the West Indian species arboreous, the cultivated* V. agnus-castus *shrubby;* leaves *digitate*-1-*foliolate, rarely simple;* cymes *axillary or paniculate.*

49. **V. divaricata,** *Sw.* *Leaves chartaceous,* 3(-1)-*foliolate: leaflets* elliptical or elliptical-oblong, entire, glabrous or hispidulous on the ribs and minutely reticulated beneath, *shortly petiolulate; cymes* axillary, *dichotomous, corymbiform:* peduncle long, compressed; calyx truncate–5-denticulate; corolla pale-blue: inferior lip bearded at the base; drupe "ovoid."—V. multiflora, *Miq.!*—Cymes about as long as the deciduous leaves; calyx $\frac{2}{3}$‴, corolla 4‴ long.—HAB. Dominica!, *Imr.*, S. Lucia; Trinidad!, *Cr.;* [Cuba to Guiana!].

50. **V. umbrosa,** *Sw.* (*non Mey.*). *Leaves leathery,* 5(–3)-*foliolate:* leaflets elliptical, or elliptical-oblong, archveined, entire, glabrous: *petiolules unequal,* inferior shorter; *cymes* dichotomously few-flowered, *in axillary peduncled racemes;* calyx 5-dentate; corolla puberulous: tube twice or thrice as long as the calyx; drupe globose.—A large tree; leaflets often 6″ long, blunt or bluntish: the middle petiolule 9‴–6‴ long; calyx 1‴, corolla 4‴ long; drupe "yellow," 8‴–6‴ diam.—HAB. Jamaica!, *Macf.*, *March*, *Wullschl.*, in the mountains; [Cuba!].

51. **V. capitata,** *V.* *Leaves chartaceous,* 5-*foliolate: leaflets* elliptical-lanceolate or lanceolate, acuminate, entire, glabrous, *shortly petiolulate; cymes* axillary, long-peduncled, *contracted into a head;* calyx 5-denticulate-repand; corolla blue: tube about 4 times as long as the calyx.—A timber tree; leaflets 3″–5″, calyx $\frac{2}{3}$‴, corolla 4‴ long.—HAB. Trinidad!, *Lockh.*, *Pd.;* [Guiana! equat. Brazil!].

18. AVICENNIA, *L.*

Calyx 5-partite. *Corolla* subrotate: lobes 4, one slightly unequal. *Stamens* 4, unequal, shortly exserted. *Ovary* 2-celled: cells 2-ovulate. *Stigma* bifid: lobes pointed. *Fruit* compressed, leathery, tardily 2-valved, 1-seeded by abortion. *Embryo* naked, germinating in the fruit: radicle inferior, ascending between the cotyledons.—Mangrove-trees; leaves *leathery, entire, powdery-white beneath or glabrate;* flowers *white, in peduncled clusters.*

52. **A. nitida,** *Jacq.* Leaves lanceolate or lanceolate-elliptical, acuminate (or bluntish); corolla downy on both sides; *style as long as the stamens.—Jacq. Amer. Pict. t.* 169.—A. tomentosa, *Sw.*, *Mey. Esseq.!*, *Sieb. Mart.* 328 (*non Jacq.*).—HAB. Jamaica!, *Dist.*, *March*, forming partly the mangrove-woods; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Cuba to Brazil!; trop. Africa!].

A. tomentosa, Jacq., distinguished by broad leaves and subsessile stigmas, is said to grow in a few of the Caribbean islands, but does not occur in our collections: only in Mr. Bentham's herbarium I saw a specimen, collected by Anderson in S. Lucia, which from its habit may prove to be this second species.

CXXII. MYOPORINEÆ.

Character of *Verbenaceæ*, but seeds albuminous, radicle superior, and pedicels axillary.

I. BONTIA, *L.*

Calyx 5-partite. *Corolla* tubular, 2-lipped, pilose within: inferior lip reflexed. *Stamens* didynamous, the inferior exserted. *Ovary* 2-celled: cells 4-ovulate: ovules separated by an

incomplete, longitudinal dissepiment and by a transverse stricture: the pairs one above the other. *Stigma* blunt. *Drupe* usually 4-seeded.—A glabrous tree (*or* shrub); leaves *scattered, entire.*

1. **B. daphnoides,** *L.—Jacq. Amer. Pict. t.* 261. *f.* 57: the flower. *Desc. Fl.* 6. *t.* 386.—30′–10′ high; leaves lanceolate, acuminate, 4″–2″ long: pedicels mostly single, as long as the flower; calyx-segments subulate, ciliate, 1‴ long; corolla yellow, variegated with purple, 10‴–12‴ long; drupe ovate, pointed, yellowish, 5‴ long.—Hab. Barbuda!, *Nichols.*, Antigua!, *Nichols.*, *Wullschl.*, Barbadoes; naturalized in Jamaica; Trinidad!, *Cr.*; [Haiti, French islands!].

GYMNOSPERMÆ.

CXXIII. CONIFERÆ.

Flowers unisexual, naked, reduced to single stamens and open carpophylls, often amentaceous, and ♂ devoid of bracts. *Syncarpium* a cone, rarely fleshy. *Embryo* axile, developed with the albumen in a secondary sac of the ovule: cotyledons whorled or 2.—Woody plants: *the wood devoid of vessels;* leaves *simple, entire, rigid, often acerose.*

Resin and volatile oils are universal in this order. The West Indian *Coniferæ* are timber-trees.

1. JUNIPERUS, *L.*

Flowers in small catkins, usually diœcious. *Anthers* 3–8-celled: cells near the base of the scale-like connective. *Bracts* of ♀ becoming fleshy, coalescent, (forming the galbulus), inferior sterile: ovules 3–1, erect, atropous. *Cotyledons* 2(–3).—Leaves *acerose or minute, opposite or in threes.*

1. **J. barbadensis,** *L. Leaves channelled on the back with a linear,* glandular *furrow,* on older lateral branches minute, decussately imbricate, deltoid-ovate, bluntish, on younger shoots subulate-lanceolate, acuminate; galbuli globose, glaucous-black, usually shorter than their supporting branchlet.—*Sl. t.* 157. *f.* 3.—J. bermudiana, *Lun.* (*non L.*).—Combined by Endlicher with *J. virginiana,* L., which is quite distinct by having a short gland and no linear furrow on the back of the leaves, and by the galbuli ovate-obtusate.—A large tree; small leaves ½‴–1‴, larger ones 2‴–3‴ long.—Hab. Bahamas; Jamaica (*Sl.*), in the Blue mountains; Antigua!, *Wullschl.*, at Cedar hall, Barbadoes.

2. PINUS, *L.*

Flowers amentaceous, monœcious. *Anthers* 2-celled. *Carpophylls* separated by bracts (*i.e.* by organs homologous to the stamens), forming a cone, 2-ovulate: ovules anatropous. *Cotyledons* whorled.

2. **P. bahamensis,** *Gr.* (*n. sp.*). Leaves ...; cones shortly peduncled, conical-cylindrical, bluntish, (3½″ long): apophysis convex-depressed, transversely keeled, polished brown, umbilicate at the middle: umbo pyramidal or compressed-conical, pointed, spreading.—Of this timber-tree the cones only are known as yet: from its vernacular name (Pitch-Pine) it may belong to the section *Tæda,* in which there are three leaves in the bundle.—Hab. Bahamas!: Kew Museum.

3. PODOCARPUS, *L'Hér.*

Stamens in catkins: anthers 2-celled. *Female flowers* solitary: ovule single, anatropous, supported by a thickish, lobed disk. *Seed* drupaceous: albumen amylaceous: cotyledons 2. —Leaves *flat, mostly scattered;* flowers *usually diœcious.*

3. **P. coriaceus,** *Rich.* *Leaves* lanceolate, *acute,* tapering at the base; disk unequally 2-fid, about as long as the seed, longer than the peduncle: *seed obliquely ovoid-globose,* with a short, blunt point.—*Rich. Conif. t.* 1. *f.* 3. *Hook. in Lond. Journ. Bot.* 1. *t.* 21. —P. Yacca, *Don.*—About 50′ high; leaves 1″–2½″ long, 2‴–5‴ broad; seed 2‴–3‴ long: point recurved or straightish. Crueger's specimens are sterile, but not to be distinguished by the foliage. HAB. Jamaica!, *Al., M'Nab, Don,* in the mountain-woods of Port Royal, in the Blue mountains, where it extends to their summit (8000′ alt.); Montserrat (*Endl.*); Trinidad!, *Cr.*, Aripa, Tocuche.

4. **P. Purdieanus,** *Hook.* *Leaves* oblong-linear, lanceolate at the base or lanceolate to the *bluntish* or *mucronate-pungent* point; ♂ catkins sessile, geminate, shortly cylindrical; disk unequally 2-dentate, as long as the seed, twice as long as the peduncle; *seed ovoid,* with a short, blunt point.—*Hook. Ic. t.* 624.—A large tree, about 120′ high; leaves 4″–1½″(–6″) long, 5‴–3‴(–8‴) broad; seed 4‴ long. The ♂ catkins are to be verified in the Jamaica tree: I describe them from Wright's Cuba specimens, which, though smaller-leaved, are scarcely to be distinguished.—HAB. Jamaica!, *Al., March,* in the northern districts, S. Anns near Moneague, S. Mary's, at 2500′–3500′ alt.; [south-eastern Cuba!].

5. **P. salicifolius,** *Kl. Karst.* *Leaves* oblong-linear, lanceolate at the base, *long-acuminate,* often a little oblique; "♂ catkins peduncled, solitary, cylindrical; *disk* 2-lobed, *shorter than the peduncle;* seed oblong-globose, with a very short point."—Taxus lancifolia, *Wickstr. ex descr.*—Leaves 4″–6″ long, 5‴–7‴ broad: but only 1″–2″ long in the form described by Wickström.—HAB. Dominica!, *Imr.;* [Guadeloupe; Venezuela!, *Fendl. Coll. n.* 1288].

CXXIV. CYCADEÆ.

Character of *Coniferæ,* but cotyledons 2, coalescent, stem simple, and leaves pinnate.— Seeds *drupaceous.*

Starch is extracted from *Zamia* and from the cultivated *Cycas revoluta,* Thunb. (Desc. Fl. 6. t. 449).

1. ZAMIA, *L.*

Stamens and *carpophylls* truncate-peltate, the latter 2-ovulate beneath.—Stem *depressed;* leaves *straightish in vernation:* leaflets *jointed at the base.*

1. **Z. integrifolia,** *Ait.* *Leaflets* leathery, *linear-oblong,* subfalcate, cuneate at the base, *rounded-blunt at the serrulate top:* petiole unarmed.—*Jacq. Ic. Rar. t.* 635.—HAB. Jamaica (*Kew Mus.*), in arid places along the coast; [Cuba!, Haiti].

2. **Z. angustifolia,** *Jacq.* *Leaflets* elongated, *narrowly linear,* entire, few-nerved: petiole unarmed.—*Jacq. Ic. Rar. t.* 636.—Leaflets 5″ long.—HAB. Bahamas (*Jacq.*); [Cuba!].

MONOCOTYLEDONES.

CXXV. ALISMACEÆ.

Flower-organs distinct from each other, or the carpids connected below. *Seeds* exalbuminous: embryo mostly curved, with a large, usually slender radicle.—Aquatic or bog-plants; leaves *rosular, mostly furnished with a blade*; pedicels *umbellate or whorled.*

1. ECHINODORUS, *Rich.*

Flowers hermaphrodite or polygamous. *Sepals* 3. *Petals* 3, imbricative. *Stamens* usually definite, 6 or more. *Achenia* 1-seeded, pluriserial on a convex torus, longitudinally ribbed or crested.

1. **E. cordifolius,** *Gr.* *Scape* erect, 5–3-*angular,* paniculate, with distant, hermaphrodite whorls and umbels; *leaves* emerging, *cordate-roundish,* 9–5-nerved, shorter than the long petiole; sepals many-ribbed, little shorter than the white petals; stamens 12–15; ovaries numerous, shorter than the style; *carpids beaked: ribs about* 12, *entire.—Plum. Ed. Burm. t.* 234. *f.* 2.—Alisma, *L.* A. Berteroanum, *Balb.* A. Sprengelii, *Kth.*: young specimens with oval or oblong, primoidal leaves.—2′–4′ high; leaves 5″–3″, petals 2½‴ long, carpid-heads 3‴ diam.: beak at length half as long as the carpid.—Hab. Jamaica!, *Bancr., March,* in shallow ponds; Antigua!, *Wullschl.*; [French islands!; Guiana!, Brazil!].

2. **E. guianensis,** *Gr.* Scape simple, submersed, terminated by few-flowered umbels or whorls; *leaves floating, hastate-oval,* with the auricles somewhat pointed, much shorter than the submersed petiole; petals white, yellow at the base, little exceeding the many-ribbed sepals; stamens 6–12; styles shorter than the ovaries; *carpids beakless: muricate crests about* 8, *the dorsal larger.—Mart. Fl. Bras.* 8. *t.* 13. *f.* 3; *t.* 15. *f.* 1.—Sagittaria, *Kth.* S. echinocarpa, *Mart.* (Alisma, *Seub.*). S. Seubertiana, *Mart.*: a form with rounded leaf-auricles.—Leaves 2″ long, smaller in a low, terrestrial form; petals 6‴–9‴ long, carpid-heads 5‴ diam.—Hab. Trinidad!, *Cr.,* in savannahs; [Mexico to Brazil!].

2. SAGITTARIA, *L.*

Character of *Echinodorus,* but flowers unisexual, stamens usually indefinite, and achenia flat, winged.—Emerging water-plants; primordial leaves *devoid of a blade: in the subsequent ones the blade is developed often by degrees;* flowers *white, usually monœcious, the superior ♂.*

3. **S. acutifolia,** *L.* *Leaves sagittate,* with the inferior veins recurved, (passing by oval-oblong blades into the primordial ones); whorls distant: pedicels subequal; stamens numerous: *filaments longer than the anthers; carpids shortly mucronate, wholly surrounded by a wing.—Desc. Fl.* 7. *t.* 497.—Distinguished from the allied *S. sagittifolia,* L. of the Old World by the fruit, and by longer filaments, and from *S. obtusa,* W. of the United States by the nearly beakless carpids.—Hab. Jamaica!, all coll., in ditches; [Guiana!].

4. **S. lancifolia,** *L.* *Leaves oval,* tapering at the base, other oval-oblong or elliptical-lanceolate: all veins ascending; whorls few-flowered, distant: superior pedicels shorter; stamens numerous: *anthers longer than the filaments; carpids mucronate. wing dorsal, spongious.—Bot. Mag. t.* 1792. *Red. Lil. t.* 411. *Desc. Fl.* 7. *t.* 498.—S. angustifolia, *Lindl.* S. ovata, *Red.*: the form with the leaves quite developed.—Stouter than the preceding; flowers large, but petals variable in size.—Hab. Jamaica!, *Wils., Pd., M'Nab,* in ditches and lagoons; [Cuba to Guiana!].

CXXVI. HYDROCHARIDEÆ.

Flowers corollate, unisexual or polygamous. *Ovary* inferior: style divided. *Seeds* exalbuminous. *Embryo* straight: radicle large.—Aquatic, floating, or submersed herbs; peduncles *supported by spathaceous bracts.*

1. LIMNOBIUM, *Rich.*

Flowers unisexual. *Sepals* 3. *Petals* 3. *Anthers* 6–12, linear, inserted into a short column. *Ovary* 6–9-celled: ovules "atropous;" stigmas 2-partite. *Berry* many-seeded. —Stoloniferous herbs; leaves *rosular, floating;* flowers *small, whitish.*

1. **L. stoloniferum,** *Gr.* Leaves oval-oblong or oval-roundish, subacute or roundish at both ends, spongious beneath.—Hydromystria, *Mey. Esseq.!* L. Spongia, *Steud. ex parte.*—*L. Bosci,* Rich. (*Hydroch. t.* 8) is distinguished by much larger, subcordate-reniform leaves: our specimens are in fruit and admit of no further comparison with this species, nor with the monœcious *L. Sinclairii,* Benth. Leaves $6'''$–$12'''$ long, $4'''$–$8'''$ broad.—Hab. Trinidad!, *Cr.;* [Guiana!].

CXXVII. NAJADEÆ.

Flowers apetalous or naked. *Ovaries* free, distinct, or solitary, 1-ovulate. *Seeds* exalbuminous: radicle mostly large.—Aquatic, floating, or submersed herbs; spadix (*or* flower) *enclosed by or bursting from a spathe.*

1. POTAMOGETON, *L.*

Flowers spicate, hermaphrodite. *Sepals* 4: anthers inserted into their claw. *Ovaries* 4, becoming slightly succulent achenia. *Embryo* curved.—Leaves *alternate (or opposite), stipulate;* spadix *peduncled, emersed.*

1. **P. fluitans,** *Rth.* Stem cylindrical, proliferous; *leaves chartaceous,* all *long-petioled,* uppermost floating, oblong or lanceolate-oblong, *tapering at the base:* petiole convex above: submersed ones persistent, narrower, alternate: stipules free, not keeled; spikes cylindrical: peduncles equally big; carpids keeled.—*Cham. in Linnæa,* 2. *t.* 6. *f.* 24: the fruit.—P. occidentalis, *Sieb. Mart.* 275!—Hab. Jamaica!, *March;* Trinidad!, *Cr.,* in rivers; [Cuba! to Martinique!; both temperate and tropical zones of the globe].

2. **P. plantaginea,** *Ducr.* var. *jamaicensis.* Stem cylindrical, branched; *leaves membranaceous, shortly petioled,* lanceolate-oblong or uppermost oval, even at the margin: stipules free, keeled; spikes cylindrical: peduncles equally big; *carpids sharply keeled.*—From the European form this variety is only distinguished by shorter petioles, and the leaves narrower, all or the inferior long-tapering at the base: from the allied, often very similar species, it is more distant, viz. from *P. lucens,* L. by the carpids half as large and sharply keeled, by equal peduncles, by the transverse veinlets of the leaves rarely divided and the leaf-margin even, from *P. prælongus,* Wulf. by the petioles, and from the large-leaved forms of *P. heterophyllus,* Schreb. (*P. Zizii,* Kch.) by the carpids and the even leaf-margin.—Hab. Jamaica!, *Al., Wils.:* a form with all leaves submersed; [α: western and southern Europe!].

2. RUPPIA, *L.*

Flowers naked, hermaphrodite. *Stamens* 2: anther-cells 2, distinct. *Ovaries* 4 (3–6), at length stalked by a long carpophore. *Embryo* "ovoid."—Stem *submersed, filiform, branched;* leaves *capillary, sheathing at the base;* flowers 2 *or several near the summit of axillary peduncles.*

3. **R. maritima,** *L.* Anther-cells ovoid-oblong; carpids obliquely ovoid, shortly

beaked, much shorter than the carpophore.—*Reichenb. Ic. Germ.* 7. *t.* 17.—R. didyma, *Sw.!*: a monstrosity, with some of the carpophores united in pairs. R. brevipes, *Bertol.*: a short-peduncled form.—Peduncles at length elongated, spirally twisted at the base or short and straight.—HAB. Antigua!, *Wullschl.*, in shallow sea-water; Trinidad!, *Cr.*; [S. Barthélemy!, Guadeloupe!; Sandwich islands!; both temperate zones of the globe].

3. NAJAS, *L.*

Flowers naked, unisexual, sessile. *Stamen* 1. *Ovary* 1: stigmas several. *Embryo* straight.—Wholly submersed, branched herbs; leaves *sessile, sheathing at the base, opposite; flowers solitary or clustered.*

4. **N. major,** *All.* Leaves broadly linear, sinuate-dentate with mucronate teeth: sheath entire; flowers diœcious; "anther subsessile, 4-valved."—HAB. Antigua!, *Wullschl.*; [Europe!, Asia, Sandwich islands].

4. THALASSIA, *Sol.*

Flowers "diœcious, ♂ on a filiform spadix," (♀ unknown). "*Sepals* 3. *Anthers* 9, (12, *Duchass.*)"—Wholly submersed, marine herbs; leaves *rosulate, grasslike*; "spadix *with a bifid spathe, exserted.*"

5. **T. testudinum,** *Kœn.* Rhizoma creeping; leaves broadly linear, (about 1′ long), exterior marcescent; spadix central.—Habit of *Posidonia australis*, which is hermaphrodite and has few stamens.—HAB. Jamaica!, *March*, gregarious on the bottom of the sea; [Caribbean islands!].

CXXVIII. AROIDEÆ.

Flowers apetalous or naked, crowded on a spadix, which is supported by a spathe, rarely subsolitary with the spadix reduced. *Pericarp* mostly baccate. *Embryo* included in amylaceous albumen or exalbuminous: plumule developed, mostly exserted.—Herbaceous *or* woody plants, *often epiphytes or scandent*; leaves *often rosulate, with a large blade.*

The acrid principle of this Order is often regarded as poisonous: the leaves, when chewed, produce an inflammation of the mouth, as is known of *Dieffenbachia Seguine* (the Dumb Cane). The fleshy underground stems of several, when roasted, become eatable, *e.g.* the Coco-root (*Colocasia*), yielding a quantity of starch, the turiones and leaves of *Xanthosoma*. Of some species of *Anthurium* and *Philodendron* the fibre is used.

TRIBE I. *ORONTIACEÆ.—Flowers hermaphrodite (or partly unisexual), covering the spadix to its summit, usually provided with a calyx.*

1. ANTHURIUM, *Schott.*

Spadix free from the persistent, recurved spathe. *Calyx* 4-leaved. *Stamens* 4. *Ovary* 2-celled: cells 2–1-ovulate. *Seeds* albuminous.—Large-leaved herbs *or* scandent, rooting shrubs; leaves *or* leaf-segments *pointed*: petiole *tumid at the summit*; spathe *narrow, often green.*

§ 1. *Scandent shrubs; leaves alternate; peduncles axillary.*—"Ovary-cells 2-ovulate" (*C. Kch.*).

1. **A. violaceum,** *Schott!* *Leaves* chartaceous, *elliptical or elliptical-lanceolate*, entire, 1-nerved, *shortly petioled*: midrib filiform beneath: veins joined by 2 arches, 1 distant from the margin; spadix short, erect, flowering nearly to the base, exceeding the lanceolate-acuminate spathe.—*Schott, Gen. t.* 94: *anal.*—Pothos, *Sw.*—Stipular sheaths dissolved into persistent fibres, covering the internodes; leaves 3″–4″, spadix about 1″ long.

a. Leaves elliptical; berries violet.—*Kth. N. Gen. t.* 19. *Desc. Fl.* 7. *t.* 499.

β. angustifolium, Kth. Leaves elliptical-lanceolate or lanceolate; berries "white."
HAB. Jamaica!, *Macf.*, *Al.*, *March*, *Wullschl.*, rooting on trees, in the mountains; Antigua!, *Wullschl.*; [Haiti! (*β*); Mexico! to Brazil!].

§ 2. *Leaves rosulate, entire; stem none or short.*—"Ovary-cells 1-ovulate" (*C. Kch.*).

* *Leaves 1-nerved: veins joined by a double arch, one distant from the margin.*

2. **A. lanceolatum,** *Kth.* *Leaves* rigid, chartaceous, *lanceolate*, tapering at the base, 1-nerved: *midrib argute beneath*, veins joined by a double arch, one distant from the margin: petiole compressed from the base, 2-edged: terminal tumour short; peduncles slender, angular, equalling the leaves; spadix slender, exceeding the lanceolate-acuminate spathe, naked at the base.—*Plum. Descr. t.* 62: a state with short petioles.—A. Willdenowii, *Kth.* A. Swartzianum, *Schott?*—Leaves 1½′ long, 3″ broad at the middle; spadix 4″–6″, spathe 3″–4″ long.—HAB. Jamaica!: introduced into British gardens; S. Lucia (*Schott*); [Guiana!].

** *Leaves 1-nerved: veins joined by a single, marginal arch.*

3. **A. Huegelii,** *Schott!* Stemless; leaves large, chartaceous, *obovate-oblong, bluntish at the base* (or minutely cordate), 1-nerved: *midrib sharply keeled beneath:* stronger veins 9–12, joined by a marginal arch: petiole short; peduncles slender, little shorter than the leaves; spadix at length much longer than the lanceolate-acuminate spathe, naked at the base.—*Schott, Ic. t.* 18–20.—Leaves 2′–4′ long, 6″–9″ broad above the middle; spadix 4″–10″ long, sterile above.—HAB. Jamaica!, *March*, on trees; Dominica!, *Imr.*; S. Vincent!, *Guild.*; [Guadeloupe!].

*** *Leaves palmati-pedatinerved.*

4. **A. dominicense,** *Schott!* *Leaves* rigid, *leathery, acuminate-oblong from a cordate base*, 7-nerved, veiny: midrib convex beneath, 2 nerve-pairs running along the margin, the third distant from it: primary veins numerous: petiole long; peduncles slender, as long as the leaves; spadix about thrice as long as the oblong-lanceolate spathe, flowering to the base.—Leaves 8″–10″ long, 2″–2½″ broad; spadix 3″ long.—HAB. Dominica!, *Imr.*

5. **A. Guildingii,** *Schott!* *Leaves* rigid, *shining, chartaceous, cordate-ovate with superincumbent basilar lobes*, 11–9-nerved: midrib obtusely keeled beneath, innermost lateral pair including an ovate area with numerous vein-pairs; petiole long; peduncles slender, about as long as the petiole; spadix short, about twice as long as the lanceolate spathe, naked at the base.—*Plum. Ed. Burm. t.* 38.—Pothos cordata, *L.* A. fallax, *Schott?*—Stemless; leaves 8″–10″ long, 5″ broad; spadix 2″ long.—HAB. S. Vincent!, *Guild.*

6. **A. concinnum,** *Schott!* *Leaves* rigid, *leathery*, veiny, large, *broadly cordate-ovate with distantly parallel basilar lobes and a rounded sinus*, 13-nerved: *innermost lateral pair including* an elliptical-lanceolate area with *numerous equal vein-pairs;* spadix about as long as the lanceolate acuminate spathe, very shortly naked at the base.—Leaves 12″ long, 9″ broad; spadix 4″ long.—HAB. S. Vincent!, *Guild.*

7. **A. macrophyllum,** *Endl.* *Leaves membranaceous*, large, *broadly cordate-ovate with parallel basilar lobes and a rounded sinus*, pedati-15–17-nerved: midrib convex beneath, *innermost lateral pair including* a rhomboid-elliptical area, with *distant*, 5–8-*jugal, stronger vein-pairs:* petiole long; spadix long, about twice as long as the lanceolate-acuminate spathe, naked at the base.—*Plum. Descr. t.* 63, 51, i. *Jacq. Ic. Rar. t.* 610.—Pothos, *Sw.* P. grandifolia, *Jacq.*—Stemless; leaves 2″–1″ long, 12″–8″ broad; spadix often 1′ long, usually sterile above; berries blue.—HAB. Antigua!, *Wullschl.*, on trees; [Portorico, Guadeloupe!; Venezuela].

8. **A. cordifolium,** *Kth.* *Leaves chartaceous*, or at length leathery, large, *deltoid, slightly cordate with diverging rounded lobes and a broadly open sinus*, which is *truncate at the middle:* pedate nerves 11–13, midrib convex beneath, *innermost lateral pair including a rhomboid area with the stronger vein-pairs distant*, 8–10-jugal, the lowest more distant than the following: petiole long: peduncled spadix equalling the leaves, about 2–3 times as long as the lanceolate-acuminate spathe, naked at the base.—*Bot. Mag. t.* 5801.—Pothos

macrophylla, *W.*—Stemless; leaves 10″–20″ long, 8″–14″ broad; spadix slender, 12″–6″ long.—HAB. Jamaica!, *March*, *Wullschl.*, on trees; S. Kitts.

§ 3. *Leaves approximate, palmatipartite; stem short.*

9. **A. palmatum,** *Kth.*, *Schott!* *Leaves* chartaceous, long-petioled, *palmatipartite: segments* 7–10, *spathulate-lanceolate;* peduncles long; spadix slender, little exceeding the linear-acuminate spathe, naked at the base.—*Plum. Descr. t.* 64. 65.—Pothos, *L.*—Leaves "several feet in diameter;" spadix 8″–14″ long.—HAB. Dominica!, *Imr.;* [Martinique].

A. Andersonii, Schott (leaflets 9), and *A. pentaphyllum*, Kth., are said to occur in S. Lucia: both are distinguished from *A. palmatum* by the leaflets quite distinct.

2. SPATHIPHYLLUM, *Schott.*

Spadix naked at the base, supported by a foliaceous, persistent spathe. *Stamens* 6. *Ovary* "3(–4)-celled: cells few-ovulate." *Seeds* albuminous.—Stemless herbs; leaves *elliptical, pointed, uninerved:* veins *numerous, parallel:* petiolar sheath *embracing the peduncle;* spathe *at length greenish.*

10. **S. cannifolium,** *Schott!* Spathe ovate-oblong, shortly cuspidate, little exceeding the spadix; *naked part of the spadix short, free from the spathe;* calyx truncate, about as long as the ovary.—*Schott, Aroid. t.* 1.—Pothos, *Dryand.*—Leaves 1″–1½″ long, 5″–8″ broad; spathe 6″ long, 2″ broad; spadix 5″–3″, naked part of it about 4‴ long.—HAB. Trinidad!, *Schott*, *Cr.*, *Lockh.*, common in moist places; [Brazil].

3. MONSTERA, *Ad.*

Spadix free from the cymbiform, decaying spathe, bearing flowers to the base. *Stamens* naked, 4(–6). *Ovary* 2-celled: cells 2–1-ovulate. *Seeds* exalbuminous.—Stem woody, radicant on trees; leaves *approximate*, 1-*nerved:* stronger veins *curved, parallel;* spathe *coloured.*

From a monstrosity (collected by Mr. Wullschlaegel), in which the stamens are transformed into a calyx, it appears that *Dracontium* is nearly allied, being chiefly distinguished by the spathe persistent, and the spadix naked at the base.

11. **M. pertusa,** *Gr.* Leaves membranaceous, ovate, at length perforated along the midrib by oblong or oval-oblong holes; spathe "yellow within," twice as long or half as long again as the cylindrical spadix.—*Plum. Descr. t.* 56, 57. *Desc. Fl.* 3. *t.* 229.—Dracontium, *L.* M. Adansonii, *Schott.* M. Imrayana, *Schott!:* a form with a broader spathe and the petiole sheathing to its summit.—Larger leaves about 1′ long: yellow spadix 3″–5″ long.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.;* [French islands! to Guiana!].

TRIBE II. *ARACEÆ. Flowers unisexual, naked: the spadix usually ♀ at the base, ♂ above it.*—Connective in the West Indian genera large, truncate, except in the anomalous floating ones.

4. DIEFFENBACHIA, *Schott.*

Spadix free at the ♂ summit: ♀ part adnate to the persistent spathe, with its upper, abortive flowers scattered. *Anther-cells* adnate to a column. *Ovaries* "3–2(–1)-celled," surrounded by sterile filaments: cells 1-ovulate. *Seeds* exalbuminous.—Stem *erect;* leaves *approximate at its summit,* 1-*nerved:* veins *numerous, parallel.*

12. **D. Seguine,** *Schott.* Leaves ovate-oblong, pointed, rounded at the base: stronger veins 9–15-jugal; spathe greenish.—*Plum. Descr. t.* 61, 51, *h.* *Jacq. Amer. Pict. t.* 229. —Arum, *L.* D. Plumieri, *Schott.* D. neglecta, *Schott!:* Jacquin's form with the petiole sheathing to its summit.—3′–6′ high; leaves about 1′ long.—HAB. Jamaica!, *Dist.;* [French islands!, in moist places; Guiana!].

5. MONTRICHARDIA, *Crueg.*

Spadix free, covered wholly by flowers, ♂ above, ♀ below, devoid of sterile organs; spathe

sheathing, at length deciduous. *Anthers* distinct. *Ovary* "1-celled, 1(-2)-ovulate." *Seeds* exalbuminous.—Stem arborescent; leaves *rosulate at its summit, sagittate:* veins *joined by arches near the margin:* petiole *long, margined below to the sheathing base.*

13. **M. arborescens,** *Schott.* Stem low, unarmed; *leaf-auricles* longer than the midrib, *with their inner margins parallel at the base.*—*Plum. Descr. t.* 60, 51, *g.*—Arum, *L.* Caladium, *Vent.*—Stem 5′-6′ high (*Plum.*); leaves 8″-10″ diam.; spathe "externally green, white within and purplish at the base, about 6″ long."—HAB. West Indies (*Plum.*), in moist places; [Guadeloupe!; Guiana].

14. **M. aculeata,** *Crueg.* Stem arboreous, usually prickly; *leaf-auricles* little longer than the midrib, *with their inner margins diverging.*—Caladium, *Miq.* C. arborescens, *Mey.!*—Stem 10′-25′ high; leaves 1′ diam.; spathe 5″-4″ long.—HAB. Trinidad (*Cr.*), forming thickets in moist places, chiefly near the sea; [Guiana!].

6. PHILODENDRON, *Schott.*

Spadix free, at length involute by the sheathing spathe, ♀ below, ♂ at the summit, bearing sterile organs at the middle. *Anthers* distinct. *Ovary* "compound: cells several-ovulate: ovules atropous." *Seeds* albuminous.—Stem scandent *or* erect; leaf-veins *numerous, parallel;* spathe *coloured, cymbiform above the sheathing base.*

* *Leaves entire, 1-nerved.*

15. **P. lingulatum,** *Schott!* Scandent; *leaves* alternate, *oblong-lanceolate, cuspidate,* rounded at the base: stronger veins 4-8-jugal: petiole margined to the summit: stipules none; spathe white.—*Sl. t.* 27. *f.* 2.—Arum, *L.* (*exclus. Syn. Pl.*) P. Swartzianum, *Schott?*—Leaves 5″-6″ long, 2″-1″ broad; petiole 1½″-2″, spathe 3″ long.—HAB. Jamaica!, *Pd., March, Wullschl.*, on trees; [Panama!, Venezuela].

16. **P. dispar,** *Schott.* Scandent; *leaves* alternate, *broadly ovate-oblong, mucronate,* subcordate at the base, about as long as the petiole: stronger veins 8-12(-"5")-jugal: petiole margined below the summit, with the margin gradually dilated towards the sheathing base: stipules none; spathe "yellowish."—*Sl. t.* 27. *f.* 3. *Plum. Ed. Burm. t.* 37.—P. lingulatum, *C. Kth.*—Leaves 12″-6″ long, 6″-4″ broad; spathe 6″ long: peduncle short. —HAB. Jamaica (*Sl.*); [Guadeloupe!].

17. **P. hederaceum,** *Schott.* Scandent; *leaves* alternate, *deeply cordate* with a narrow sinus, pointed, stipulate: stronger veins 6-12-jugal: petiole terete; spathe "yellowish-green."—*Plum. Descr. t.* 55, 51, *d. Jacq. Amer. Pict. t.* 230. *Desc. Fl.* 3. *t.* 168.—Arum, *L.* P. Jacquinii, *Schott.*—Leaves and spathe about 6″ long.—HAB. Jamaica (*P. Br., Desc.*); [Cuba to Martinique; Panama!, Venezuela, Guiana].

** *Leaves pinnatifid, 1-nerved.*

18. **P. lacerum,** *Schott!* Scandent; *leaves* alternate, large, *pinnatifid* to one-fourth of the transverse diameter, *deeply cordate:* stronger veins 9-10-jugal, 4-3 lowest pairs recurved, naked at the sinus: auricles approximate: lobes ovate, blunt: petiole long; peduncles fascicled, long; spathe "yellow" (*Jacq.*)—*Plum. Descr. t.* 53, 51, *b. Jacq. Schœnbr.* 4. *t.* 468.—Arum, *Jacq.* Caladium. *L.*—Leaves 10″-20″ long, 8″-16″ broad; spathe 3″-4″ long.—HAB. Jamaica!, *Dist., Wullschl.;* [Cuba! to Venezuela].

*** *Leaves 3-partite, 3-nerved.*

19. **P. tripartitum,** *Schott.* Scandent; *leaves 3-partite,* subtruncate at the base: segments entire, middle segment elliptical-oblong, pointleted, with 4-6-jugal stronger veins, lateral oblique with the stronger veins unilateral; petiole long, naked; spathe "white above, greenish with yellow spots at the base" (*Jacq.*)—*Jacq. Schœnbr.* 2. *t.* 190.—Arum, *Jacq.* Caladium, *W.*—Leaf-segments 8″-10″ long, 3″-2½″ broad, shorter than the petiole; spathe 4″ long.—HAB. Jamaica!, *March;* [Venezuela].

7. SYNGONIUM, *Schott.*

Spadix of *Philodendron:* spathe convolute-sheathing at the base, persistent. *Anthers*

connate at the middle. *Ovaries* "cohering, 2-1-celled: ovule single, anatropous." *Seeds* "exalbuminous."—Stem scandent; leaves *approximate at its summit, the perfect pedati-3–7-parted:* veins *joined by inconspicuous arches:* petiole *long, winged-sheathing below;* spathe *coloured.*

20. **S. auritum,** *Schott!* Leaves pedati-5-partite: middle segment large, ovate or ovate-oblong, exterior cohering, obovate-oblong or oblong-elliptical, blunt; spathe "greenish-yellow with purple spots" (*Jacq.*): lamina ovate-oblong, lower sheathing part cylindrical.—*Plum. Descr. t.* 58, 51, *c. Jacq. Schœnbr.* 2. *t.* 191. *Desc. Fl.* 3. *t.* 231.—Arum, *L.* S. Plumierii, *Schott.*—First lateral pair of leaf-segments 3″–2″, second 6″–4″, middle segment 12″–8″, spathe 6″(–10″), sheathing part of it 2″(–3″), spadix 4″(–6″) long.—HAB. Jamaica!, all coll., on trees; [Haiti to Brazil].

8. ACONTIAS, *Schott.*

Spadix of *Philodendron,* acuminate: spathe of *Syngonium. Anthers* connate at the middle. *Ovaries* distinct below, compound: cells several-ovulate: ovules anatropous."—Stemless herbs; leaves *pedatipartite:* veins *joined by arches:* petiole *long, sheathing, margined at the base;* spathe *greenish-yellow.*

21. **A. helleborifolius,** *Schott.* Leaf-segments 11–7, lanceolate-oblong, pointed, exterior smaller.—*Schott, Gen. t.* 47: *anal. Jacq. Ic. Rar. t.* 613.—Arum, *Jacq.*—Middle leaf-segment 6″–3″, spathe 5″ long, its tubular base ventricose.—HAB. Dominica!, *Imr.;* [French islands; Panama!, Guiana!, Brazil!].

9. XANTHOSOMA, *Schott.*

Character of *Acontias,* but anther-cells adnate to an entire, common column.—Herbs; leaves *sagittate, arch-veined:* stronger veins *straightish, distant;* spathe *coloured.*

22. **X. atrovirens,** *C. Kth.* At length caulescent; leaves livid-green beneath: basilar lobes bluntish with the backward bent vein-pair naked at the narrow sinus: stronger veins 6–9-jugal: *arch distant from the margin: spathe bluntish, little longer than the blunt spadix.*—*Sl. t.* 106. *f.* 2.—Arum sagittifolium, *L., ex parte.*—Leaves 1′–1½′ long, 10″–12″ broad; spathe 7″ long.—HAB. Jamaica!, *Dist.,* cultivated (*Sl.*); [Venezuela]. KOCI

23. **X. sagittifolium,** *Schott.* At length shortly caulescent; leaves large, green: basilar lobes pointed, with the backward vein-pair naked at the broadly open sinus: stronger veins 8-jugal: arch *distant from the margin; spathe* greenish-yellow, *acuminate, exceeding the* bluntish-acuminate *spadix.*—*Desc. Fl.* 8. *t.* 533.—Arum, *L., ex parte.*—Leaves 1½′ long; spathe 8″, spadix 6″ long.—HAB. Jamaica (*Desc.*), Barbadoes (*L.*); [Cuba to French islands!].

24. **X.? peregrinum,** *Gr.* "Stemless:" leaves large, green; basilar lobes roundish, with the backward bent vein-pair naked at the broadly open sinus: stronger veins 8-jugal: *arch marginal.*—Arum, *L.*—Leaves 2′ long or more.—HAB. Jamaica (*Sl., L.*) along mountain-rivulets: [Guadeloupe!; Venezuela].

10*. COLOCASIA, *Schott.*

Spadix free from the persistent, sheathing spathe, naked at the base and at the summit, ♀ below, ♂ above, bearing sterile organs between ♀ and ♂. *Anther-cells* adnate to the subentire column. *Ovaries* distinct, 1-celled: ovules ∞, parietal. *Seeds* "albuminous."—Tuberose herbs; leaves *peltate, arch-veined;* spathe "*yellowish.*"

25*. **C. esculenta,** *Schott.* Stemless; leaves cordate-oblong, pointed, with blunt basilar lobes and a narrow sinus.—*Sl. t.* 106. *f.* 1: a leaf. *Jacq. Schœnbr.* 2. *t.* 186.—Arum, *L.* (non A. Colocasia, *L. ex Catesb.*) A. bicolor, *Jacq.* C. antiquorum, *Schott.*—Leaves 6″–14″ long, often reddish-variegated above; spathe 3″–4″ long; spadix "odorous."—HAB. Naturalized in Jamaica, S. Kitts!, cultivated in all islands; [introduced from the East Indies!].

11. PISTIA, *L.*

Spadix wholly adnate to the spathe, 2-flowered: upper flower ♂, supported by a scutelliform disk, inferior ♀, laterally adnate to the spadix, separated from ♂ by a scaly appendage. *Anthers* 3–8(–2), adnate to an entire column: cells 4, in a cross. *Ovary* 1-celled: ovules ∞–2, parietal, "atropous." *Embryo* in the summit of the albumen.—Floating, stoloniferous, stemless herbs; leaves rosular, palmatinerved.

Klotzsch regarded the scaly appendage and the disk as perigonial organs, but the former is apparently homologous to the (stipular?) dissepiment or stricture of the spathe occurring in *Ambrosinia*. The number of stamens, upon which he chiefly constituted his genus *Limnonesis*, is, as Swartz observed, variable in our species from 3 to 8.

26. **P. occidentalis,** *Bl.* *Leaves* obovate-rhomboid, truncate-rounded or emarginate at the top, broadly sessile, 7–13-nerved; spathe whitish: peduncle short, "*scaly appendage 2-partite: segments diverging;*" anthers 3–8; berry many-seeded: seeds rugose.—*Jacq. Amer. Pict. t.* 225.—P. stratiotes, *Jacq.*, *Sw.*—Leaves 2″–6″ diam.—Hab. Jamaica!, *M'Nab*, common in ponds; Antigua!, *Wullschl.*; [Cuba to French islands!, and Florida to Brazil].

12. LEMNA, *L.*

Spadix reduced to a point: spathe membranaceous, rupturing: flowers naked, ♂ 2, reduced to single stamens, contiguous to the single ♀. *Anthers* didymous. *Ovary* 1-celled: ovules anatropous or hemianatropous. *Pericarp* utricular.—Floating, small, rooted fronds; flowers *rarely appearing in a marginal cleft of the frond.*

27. **L. minor,** *L.* *Fronds roundish-obovate,* flattish beneath: root single: filaments filiform; ovary 1-ovulate: ovule "hemianatropous."—Frond 1‴–2‴ long.—Hab. Antigua!, *Wullschl.*; [both temperate and tropical zones, in ponds].

28. **L. trisulca,** *L.* *Fronds lanceolate-oblong,* flat, the submersed connected in a cross: root single; flowers as in the preceding.—Fronds 3‴–1″ long, the floating fertile ones smaller.—Hab. Antigua!, *Wullschl.*; [both temperate and tropical zonds, in ponds].

13. WOLFFIA, *Hork.*

Character of *Lemna*, but ♂ flower single, anther "simple, 2-valved," and the solitary ovule atropous.—Floating, very minute, mostly rootless fronds; flowers *appearing on the upper facet.*

29. **W. punctata,** *Gr.* (*n. sp.*) *Fronds* elliptical-oblong, *flattish on both sides, brown-dotted:* single cleft not margined.—Nearly allied to *W. brasiliensis*, Wedd. (Ann. Sc. Nat. iii. 12. t. 8), but distinguished from its figure by the fronds twice as long as broad, not hemispherical beneath, and the utricle (seen only once) ellipsoidal, not globose. Fronds $\frac{1}{3}$‴–$\frac{1}{4}$‴ long, dotted on both sides: two or several generations of fronds usually cohering.—Hab. Jamaica!, *Wullschl.*

CXXIX. TYPHACEÆ.

Character of *Aroideæ*, but spadices 2 or several, one above the other, fruit dry, and plumule included.—Marsh plants; leaves *linear;* spadices *unisexual, each supported by a deciduous spathe.*

1. TYPHA, *L.*

Flowers supported by scaly bristles or hairs, ♂ monadelphous, 3–2(4–1)-androus, ♀ consisting of simple stipitate ovaries, which contain a single, hanging, anatropous ovule. *Caryopsis* long-stipitate: epicarp splitting.—Spadices 2, *superior* ♂, *cylindrical, interrupted by* 1–2 *deciduous spathes (besides the basilar), inferior* ♀: *the* ♀ *flowers supported by soft hairs and abortive ovaries.*

1. **T. angustifolia,** *L.*, var. *domingensis*, Pers. Leaves flat or slightly convex-concave, 5‴–7½‴ broad; spadices distant from each other, both cylindrical; hairs in ♂ exceed-

ing the filaments: pollen simple; ♀ flowers supported by a hairlike bract; stigma filiform, exceeding the hairs.—T. latifolia, *Mey. Esseq.!*—Not distinguished from the European form but by larger growth, longer spadices, and much broader leaves.—HAB. Jamaica!, *Wullschl.*, common in lagoons; Trinidad!, *Cr.*; [both temperate and tropical zones: the variety ranges from Texas! to South Brazil!].

CXXX. PANDANEÆ.

Character of *Aroideæ*, but spathes usually several, albumen devoid of amylum, fleshy or hard, and plumule included.—Woody (rarely stemless) plants; leaves *approximate at the summit of the trunk, resembling those of large grasses, if entire, or of palms, if divided.*

They are fibre-plants, used for thatching and cordage. The fruits of several, and the seeds of *Pandanus*, are eatable: *Pandanus utilis*, Bor., is a cultivated tree in the West Indies (Jamaica!, Trinidad): its large rosular leaves are spinous-dentate.

1. CARLUDOVICA, *R. P.*

Flowers monœcious, ♂ in fours around the ♀. *Calyx-limb* of ♂ multidentate, of ♀ 4-fid, superior. *Anthers* ∞. *Ovary* surrounded by elongated, sterile filaments: placentas 4, parietal, multiovulate. *Berry* "4-gonal."—Trunk radicant *or* none; leaves *rosulate, 2-palmatifid;* spadices *axillary, cylindrical, peduncled:* spathes 2–5.

1. **C. Plumieri,** *Kth.* "Trunk radicant;" leaves deeply 2-fid, unicostate, flattish, tapering into the petiole: lobes oblong, acuminate, about twice as long as the midrib: petiole one-third as long as the blade, half-terete, channelled above; spathes 5, distant, oblong-lanceolate, acuminate, clasping-concave; ♂ calyx cupulate; sterile filaments in ♀ long, filiform, flexuose.—*Plum. Descr. t.* 59, 51, *f.*—C. palmifolia (Salmia, *W.*).—Leaves 2′–2½′ long: lobes 3″–2″ broad; midrib 8″–9″ long: principal veins 7–9-jugal; spadix nodding; spathes 2½″–4″, spadix 1″–3″, sterile filaments about 2″ long.—HAB. Dominica!, *Imr.*; Trinidad!, *Cr.*; [French islands].

Two other species occur in the French islands: 1. *C. gracilis,* Liebm. Syn. *C. angustifolia,* Seem. (*Evodianthus,* Oerst.), non R. P. *C. Plumieri,* Pl. Carib.: leaves deeply 2-fid, with narrower (1″–1½″ broad) lobes, spathes 3; 2. *C. insignis,* Duchass. Syn. *C. palmata,* Pl. Carib. Allied to *C. latifolia,* R. P.: leaves 3-costate, shortly 2-fid, lobes at length cut, spathes 4.

CXXXI. PALMÆ.

Spadix supported by spathes, mostly branched: flowers usually unisexual. *Perigone* 2-seriate. *Stamens* 6 (3–∞). *Ovary* 3-1(–5)-celled: cells 1(–2)-ovulate. *Pericarp* indehiscent, fleshy, or hard: putamen often cohering with the testa. *Albumen* devoid of amylum, cartilaginous, bearing the embryo in a special, peripherical cavity.—Woody, mostly unbranched plants; leaves *usually approximate at the summit of the trunk, pinnati- or palmati-sect, rarely entire.*

Of the various productions of this Order, the following are chiefly mentioned as West Indian: *timber* is afforded by *Cocos, Geonoma Swartzii, Bactris Plumieriana, Acrocomia lasiospatha, Thrinax parviflora; fibre* by *Cocos, Sabal umbraculifera, Manicaria; thatches* are constructed with the leaves of *Copernicia, Sabal, Thrinax,* and *Geonoma Swartzii; eatable* are the fruits of *Bactris Plumieriana,* the albumen of *Cocos,* the leaf-buds of the cabbage-palms, *e.g. Euterpe oleracea, Oreodoxa oleracea, Cocos* and others; *wine* and spirits are prepared from the saccharine sap of *Cocos* and *Phœnix spinosa; oil* from the albumen of *Cocoineæ, e.g. Acrocomia, Cocos,* and from the pericarp of *Elæis; starch* from *Oreodoxa oleracea.* Two of these palms have been introduced, but are so much cultivated as to appear naturalized, viz. *Elæis guineensis* and *Cocos nucifera:* the latter as Mr. Wullschlaegel informs me, was never seen by him but in a cultivated state. Other palms, cultivated in the West Indies, are: *Areca Catechu* in Antigua!: *Wullschl.,* and S. Vincent!: *Guild.; Phœnix spinosa* in Antigua!: *Wullschl.; Ph. dactylifera* in Jamaica (*Sl.*), but not thriving there, and in Trinidad!: *Cr.; Arenga saccharifera* in Jamaica (*Macf. MS.*).

TRIBE I. *ARECINEÆ.—Fruit simple, 1-seeded, (or 2–3-partite, or -pyrenous): putamen thin, devoid of a special pore at the embryo-cavity, (rarely thick, bony, then with a single pore).*

SUBTRIBE I. *SABALINEÆ.—Flowers usually hermaphrodite. Berry smooth. Leaves palmatifid or palmatisect: divisions induplicate.*—Spadix often with special spathes at its divisions.

1. COPERNICIA, *Mart.*

Perigone exterior 3-dentate, interior 3-fid. *Ovary* 3-celled; style simple; stigma capitate, terminal in fruit. *Berry* 1-seeded. *Albumen* ruminate: embryo basilar.—Petioles *prickly;* flowers *sessile.*

1. **C. tectorum,** *Mart.* "Leaves palmatifid to beyond the middle, forming half a circle or more; spadix-branches paniculate; exterior perigone hoary-pubescent, interior sericeous-tomentose; berry olive-shaped."—*Sl. t.* 213. *f.* 2: a leaf.—*Thrinax sp., Gosse, Jam. p.* 304.—I refer to this species Sloane's thatch-palm, No. 10, though it does not occur in recent collections. That Sloane's plant is a *Copernicia,* is apparent from the "prickly" petioles, the fruit "shaped like an olive" (*Sl.* 2. *p.* 122), and the vernacular name "*Carnaiba,*" quoted by him. "Trunk smooth, about 10′ high, with a swelling at its bottom; leaves 1½′ diam. (in the figure): petiole 2′–3′ long" (*Sl.*)—HAB. Jamaica, on all the honeycomb rocks (*Sl.*), on vertical limestone-rocks (*Gosse*); [Haiti (*Mart.*); Llanos of Venezuela (*Humb.*)].

2. SABAL, *Ad.*

Perigone exterior 3-fid, interior 3-phyllous. *Ovary* 3-celled: style simple: stigma capitate, suprabasilar in fruit. *Berry* 1-seeded or 2–3-partite. *Albumen* entire, concave at the base: embryo lateral.—Petioles *unarmed;* flowers *sessile;* berries *globose.*

2. **S. umbraculifera,** *Mart.* Trunk at length high; "leaves large, glaucescent, suborbicular, multifid to one-third to two-thirds, with loose fibres between the bifid lobes, shorter than the petiole; spadix half as long as the leaves:" branches paniculate; *leaflets of the inner perigone ovate-lanceolate,* thrice as *long* as the outer perigone, equalling the stamens; *berries* greenish-black (4‴–5‴ diam.); embryo nearly at the middle of the albumen.—*Mart. Palm. t.* 130. *Du Tertre Hist. t.* 5. *f.* 7: the habit.—Trunk 60′–80′ high (*Pd.*); leaves 4′–6′ diam., petiole 6′–8′, spadix 4′–5′ long; "flowers whitish."—HAB. Bahamas (*Mart.*); Jamaica!: *Pd., e.g.* Black river savannah; [Cuba to Caribbean islands].

3. **S. mauritiiformis,** *Gr. et Wendl.* Trunk high; leaves large, glaucous beneath, "suborbicular," multifid to the middle, with loose fibres between the bifid lobes, longer than the petiole; "spadix exceeding the leaves:" branches paniculate; *leaflets of the inner perigone lanceolate-linear,* thrice as long as the outer perigone, equalling the stamens; "berry black: size of a pea."—*Karsten in Naturleben, p.* 105: the habit.—Trithrinax, *Karst.* S. glaucescens, *Lodd.* (not described), is probably the same palm.—The description of the flowers is taken from a specimen, cultivated in the botanical garden of Trinidad, that of the leaves from Mr. Crueger's label accompanying it. Trunk middle-sized, 1′–1¼′ thick, little annulate (*Cr.*), but reaching to 60′–80′ (*Karst.*); leaves 12′ diam., petiole 7′–8′, inner perigone 2‴ long.—HAB. Trinidad; [Venezuela].

A stemless *Sabal* (S. taurina, *Lodd.*), allied to *S. Adansonii,* but distinguished from it, occurs in gardens as introduced from Jamaica or Trinidad, but is not sufficiently known. Another *Sabal,* cultivated at Kew as *S. umbraculifera,* and said to be introduced from Trinidad, is not that species, but apparently a lower palm (the Kew specimen measured 14′ 3″ in 1862, and had already produced flower and fruit in 1856), distinguished by larger (8‴ diam.) berries and thinner perigonial leaflets ovate, blunt (about 1‴ long), twice as long as the outer series: it is to be compared with *S. Palmetto,* Lodd.

3. THRINAX, *L. fil.*

Perigone exterior 3-fid, interior often passing partly into stamens. *Ovary* simple, 1-ovulate; style terminal, simple; stigma infundibular. *Albumen* ruminate: embryo at its summit.—Petioles *unarmed;* flowers pedicellate; berries globose.

4. **T. parviflora,** *Sw.!* "Trunk low (10′–12′ high);" *leaves* puberulous-glabrate and *green beneath*: *divisions united to one-quarter to one-sixth*: *ligule deltoid*: spadix large, paniculate, stamens 6(–8), long-exserted; berry dry, roughish.—*Sw. Fl. t.* 13. *fig. sup.*: *anal.*—Thrinax elegans, *Hort. Herrenhus!*—De Martins describes the leaf-divisions to be united to one-third, and the ligule acuminate-3-angular: but in Swartz's specimen (taken from a young plant) the exterior leaf-divisions are united to one-sixth, the interior to one-fourth, and the ligule is bluntly deltoid (1½‴ long). The specimen, cultivated at Kew, belongs probably to *T. parviflora*, Mart. (non Sw.): from Dr. Hooker's notes it has glabrous leaves, the divisions united to one-third or two-thirds, and an acute ligule.—Leaves 10″–2′ long; spadix 2′–3′, pedicels ½‴–1‴, stamens 1‴–1½‴ long; perigone minute; berry 3‴ diam.—Hab. Bahamas (*Catesb.*); Jamaica!, *Sw.*, *March*, *Wils.*, gregarious in arid, maritime places; [Haiti].

5. **T. radiata,** *Lodd.* "Trunk short;" *leaves green*, glabrous or puberulous beneath: *divisions united to or beyond one-third*: *ligule broadly rounded*, with a short, blunt appendage at the middle; spadix large, paniculate; stamens about 8.—Leaves 2′–1′, ligule 1‴, or in the largest leaves 3‴ long: leaf-lobes numerous; spadix 2′–3′, pedicels 1‴, perigone ½‴, stamens 1‴–1½‴ long.—Hab. Antigua!, *Wullschl.*; Trinidad!, *Lour.*, *Cr.*, rare on the Bocas islands and on the north-east coast; [Cuba].

6. **T. argentea,** *Lodd.* "Trunk low (12′–15 high, 2″–3″ thick); *leaves* shorter than the petiole, *silvery-sericeous beneath*: *divisions united at the base*: *ligule concave, semilunar-eroded*; spadix little paniculate; berry small."—*Mart. palm. t.* 163: the habit; *t.* 103. III.: the fruit.—"Leaves 2′–1½′, spadix 1′ long: partial spathes 3–4 only."—Hab. Bahamas (*Catesb.*); Jamaica (*Kew Mus.*), gregarious in savannahs; [Cuba, Haiti].

7. **T. barbadensis,** *Lodd.* "Trunk middle-sized;" *leaves green, glabrous*: *divisions united at the base*: *ligule obsolete, truncate*; spadix paniculate; berry polished.—T. parviflora, *Mayc. sec. Mart.*—Young leaves 1′, spadix 2′ long; berry 4‴ diam.—Hab. Barbadoes (*Lodd.*); [Guadeloupe!, on limestone hills].

8. **T. excelsa,** *Lodd.* *Leaves* pale-green above, *hoary-glaucous beneath* by minute, appressed down. *divisions united to about one-third*: "*ligule bluntly deltoid*:" sheath densely coated with buff-coloured cotton.—The Kew specimen is 7′ 7″ high, 8″ thick below (*Dr. Hook.*); leaves 4′–5′ long, about 50-fid: divisions about 2′ long, 3″–1″ broad: "ligule 15‴ long;" spadix-branches spreading-recurved, its axis 1′ long, naked below; spathe rusty-tomentose; berry globose, 3‴ diam.—Hab. Jamaica!, *Hort. Kew.*

T. pumilio, Lodd., said to grow on the rocky coast of western Jamaica, is doubtful. Sloane's synonym is to be excluded, having been quoted by P. Browne to his *Chamærops*, which from his description seems to be a *Carludovica*.

Subtribe II. *LEPIDOCARYINEÆ.—Flowers unisexual. Fruit loricate. Leaf-divisions reduplicate.*

4. MAURITIA, *L. fil.*

Flowers diœcious. *Perigone* ♂, exterior short, 3-dentate or truncate, interior 3-partite, 6-androus, with erect anthers; ♀ "exterior 3-dentate or 3-fid, interior 3-fid. *Ovary* 3-celled, surrounded by sterile stamens: stigma 3-lobed, sessile. *Berry* large, 1-seeded. *Albumen* entire: embryo near its base or lateral."—Arboreous palms; leaves *deeply palmatifid*; spadices *simple, amentaceous, sessile, exserted from their spathe, distichous along the branches of the long, pendulous rhachis, the internodes of which are covered with the sheathing-tubular, subtruncate spathes*; flowers *sessile, bracteate*; berry *conelike from its loricate covering.*

9. **M. setigera,** *Gr. and Wendl.* (*n. sp.*). "Trunk unarmed;" leaves green: segments linear-acuminate, unarmed on the margin: *midrib distantly prickly above* with incurved, weak (4‴ long) bristles; ♂ aments oblong-cylindrical, blunt, densely covered with flowers, thrice as long as the thick internodes.—M. flexuosa trinitensis, *Mart.* M. vinifera, *Mayc.?* This palm has the thick spadix-internodes of *M. vinifera*, Mart., but by the prickles on the upper side of the leaf-ribs is distinguished from this as well as from *M. flexuosa*: the fruit

is still unknown. Leaf-segments united to about one-tenth, $5'$ long, $18'''$–$20'''$ broad about the middle, reduplicate-complicate, 11–13-nerved : midrib sharply keeled on the upper side: prickles $6'''$–$12'''$ distant, greenish; spathes in both sexes obliquely infundibular at the $8'''$–$6'''$ broad, repand-subtruncate summit, $6'''$–$4'''$ broad at the base; ♂ aments $1\frac{1}{2}''$–$2''$ long: their rhachis about $4'''$ thick; exterior ♂ perigone repand-entire, $2'''$ long, equalling the bracts, interior segments hard-leathery, puberulous, lanceolate-oblong, bluntish, $5'''$ long, valvate, exceeding the oblong anthers.—HAB. Trinidad !, *Cr.*, gregarious and forming the chief vegetation in the swampy parts of the island; Barbadoes? (*Mayc.*).

SUBTRIBE III. *EUTERPEÆ.—Flowers unisexual (monœcious in the same spadix in the West Indian genera). Fruit smooth. Leaves pinnatisect, rarely subentire : segments reduplicate (or flat).*

5. HYOSPATHE, *Mart.*

Perigone exterior ♂ cupular, 3-fid, ♀ 3-partite : interior in both sexes 3-phyllous. *Stamens* 6 : no rudimentary ones in ♀. *Ovary* 3-celled : stigmas 3, sessile "above the base of the fruit. *Berry* 1-seeded. *Albumen* entire : embryo lateral above its base."—Unarmed palms; "trunk *arundinaceous, annulate*;" leaf-segments *flattish, often several cohering;* spadix *lateral below the leaves, simply branched, equalling the inner spathe :* branches *spreading, thickened at the base :* flowers *sessile :* bracts *obsolete ;* "berry *ovoid.*"

10. **H. pubigera,** *Gr. and Wendl.* (*n. sp.*). Leaf-segments linear-acuminate, inferior distinct, superior more or less cohering and forming oblong or oblong-linear blades; *peduncle* and rhachis of the spadix *tomentose,* at length puberulous : branches 20–30; *rudiment of the pistil in ♂ columnar,* as long as the stamens.—Trunk $10'$–$12'$ high (*Cr.*); petioles more than $2'$, leaves $3'$–$4'$ long, green with pale nerves, glabrous, chartaceous : inferior segments somewhat distant, $1\frac{1}{2}'$–$2'$ long, $3'''$ broad, cohering ones $\frac{1}{2}''$–$3''$ broad; exterior spathe 2-keeled, $5''$, interior $12''$–$15''$, peduncle $4''$–$2''$, inferior spadix-branches about $6''$ long, the latter much thickened at the base, rigid-spreading; glomerules somewhat distant : flowers $1'''$–$1\frac{1}{2}'''$ long.—HAB. Trinidad !, *Cr.*, gregarious, covering nearly exclusively the summit of one of the highest mountains near Tocuche.

6. JESSENIA, *Karst.*

Perigone exterior and interior 3-phyllous, the interior in ♂ much longer than the exterior. *Stamens* "20"–9 : no rudimentary ones in ♀. *Ovary* 3-celled : stigmas 3, terminal, "slightly excentrical in fruit" (*Wendl.*). *Berry* 1-seeded. "*Albumen* ruminate : embryo axil at its base."—High, unarmed palms; leaves *pinnatisect ;* spadix *simply branched :* branches *long, much exceeding the conical-acuminate rhachis :* flowers *sunk into concavities :* bracts *obsolete ;* "berry *ovoid.*"

11. **J. oligocarpa,** *Gr. and Wendl.* (*n. sp.*). *Leaf-segments lanceolate-linear, acuminate, alternate, glaucous beneath ;* stamens 9–12; *fertile flowers confined to the lowest part of the spadix-branches.*—Of allied species *J. polycarpa,* Karst., is said to have the pinnæ twice as broad, opposite, acute, stamens 16–20, *Œnocarpus Batava,* Mart., pinnæ not glaucous beneath, opposite, acute, stamens 6 : from both it is distinguished by the small number of ♀ flowers. Leaf-segments wholly reduplicate, glabrous, chartaceous, green above, whitish-glaucous beneath, $2\frac{1}{2}'$ long, $3''$ broad; spadix-branches fastigiate, $2\frac{1}{2}'$ long : ♀ flowers single, subdistant, confined to one-tenth to one-sixth of the whole branch, ♂ more contiguous; inner ♂ perigone $1\frac{1}{2}'''$ long, valvate : ♀ flowers subglobose, $2'''$–$3'''$: both perigones subequal, imbricate.—HAB. Trinidad !, *Cr.* ("Palma de Jagua").

7. EUTERPE, *Mart.*

Perigone exterior and interior 3-phyllous. *Stamens* 6 : no or "minute" rudimentary ones in ♀. *Ovary* 3-celled : stigmas 3, sessile, lateral, excentrical in fruit. *Berry* 1-seeded, fibrous. *Albumen* ruminate; embryo basilar.—High, unarmed palms; leaves *pinnatisect ;* segments *flattish ;* spadix *lateral below the leaves, simply branched, equalling the inner spathe :* branches *long, fastigiate, at length spreading :* flowers *sunk into concavities, bracteolate ;* berries *globose.*

12. **E. oleracea,** *Mart.* Leaf-segments lanceolate-linear, acuminate, glabrescent: midrib keeled above; *spadix-branches furfuraceous-tomentose, whitish: flowers approximate; leaflets of the interior ♂ perigone* ovate, bluntish, *twice as long as the exterior;* berry violet-black (6‴ diam.).—*Mart. Palm. t.* 28–30.—Trunk 80′–120′ high, or lower (*Mart.*): leaf-segments 1½′–2′ long, 1″ broad; spathe glabrous, 2′–2½′, spadix-branches 1½′, ♂ perigone 1½‴ long.—Hab. Jamaica!, *Wils.;* Trinidad!, *Cr.;* [Guiana!, common along rivers, to Pernambuco].

E. montana, Grah. (Bot. Mag. t. 3874, *Areca,* Lodd.), introduced from Grenada, is said to be distinguished from *E. oleracea* by a glabrous spadix, with purplish spreading branches and a small ♂ calyx: but the palm, sent as *Areca montana,* from Jamaica to the Kew Museum, proves to be the true *E. oleracea,* and perhaps was introduced from the mainland into that island as a cabbage-palm.

8. OREODOXA, *Mart.*

Perigone exterior and interior 3-phyllous, the latter valvate in ♀. *Stamens* 6–9. *Ovary* 3-celled, surrounded by a 6-dentate cupule: stigmas 3, sessile, suprabasilar in fruit. *Berry* drupaceous, 1-seeded: putamen adnate to the testa. *Albumen* entire: embryo basilar.—High, unarmed palms; leaves *pinnatisect:* pinnæ *2-fid at the top, petiole long-sheathing;* spadix *at the base of the cylinder formed by the leaf-sheaths, thrice–twice divided, equalling the inner lignescent spathe:* flowers *sessile, lanceolate;* berries *ovoid or oblique, bluish.*

13. **O. oleracea,** *Mart.* "Trunk equal at the middle (100′–120′ high);" leaf-segments lanceolate-linear, acuminate; spadix-branches furfuraceous-puberulous, glabrescent; stamens 6; *berry incurved, obovoid-oblong:* fibres of the mesocarp in an oval area.—*Sl. t.* 215: *leaves and berries. Jacq. Amer. Pict. t.* 255 (*Desc. Fl.* 4. *t.* 265): *the habit. Mart. Palm. t.* 156. I. II.—Areca, *Jacq.*—Leaf-segments 3′ long, 1½″ broad: spadix 3′, ♂ perigone 2‴–2½‴, "berry 8‴–9‴ long."—Hab. Bahamas (*Mart.*); Jamaica!, *Wils.,* common in the mountains, to Barbadoes; Trinidad!, *Cr.;* [Cuba! and other Antilles].

14. **O. regia,** *Kth.* "Trunk thickened at the middle (40′–60′ high); leaf-segments linear-acuminate;" spadix-branches puberulous; stamens "9"–6; *berry ovoid:* fibres of the mesocarp in a round area.—*Mart. Palm. t.* 156. III.–V.—"Leaf-segments 2½′ long, 8‴–12‴ broad;" ♂ perigone 3‴, berry 6‴ long.—Hab. Antigua!, *Wullschl.;* [Cuba and other Antilles].

9. GEONOMA, *W.*

Flowers with their bracteoles sunk into the alveoles of the rhachis. *Perigone* exterior 3-phyllous, interior ♂ 3 phyllous, ♀ 3-fid (or closed, circumscissile). *Stamens* 6, monadelphous: anther-cells usually distinct, reflexed. *Ovary* 1-celled, surrounded by a 6-dentate cupule; style 3-fid, suprabasilar. *Berry* with the albumen entire: embryo at its base.—Trunk unarmed, arundinaceous, rarely none; leaves pinnatisect-bifid, usually unequally divided: segments flattish, with the base often broadly adnate; spathes several–2 at the base of the spadix, marcescent.

15. **G. vaga,** *Gr. and Wendl.* "Trunk 8′–10′ high" (*Cr.*); *leaf-segments* 6–10-*jugal,* adnate, obliquely acuminate, very unequal, several broadly oblong, others linear, lowest distant; *spadix-branches divided,* usually 3-partite, fastigiate, *pilose or hispidulous:* spathes 2–3 (3″–4″ long): flowers 4–5-seriate, lax: lip of the alveole rounded-subtruncate; *exterior ♂ perigone two-thirds as long as the interior; staminal tube equalling the latter,* campanulate-cylindrical; *berry globose,* rounded or blunt at the top (3‴ diam.).—*Mart. Palm. t.* 5: *is perhaps this species, but its short staminal tube disagrees. G. multiflora,* Mart. (*t.* 6) has "20-jugal, narrow leaf-segments, a very delicate down on the diverging spadix-branches, two, at length 5″ long spathes, and a subemarginate alveolar lip," while in our species the spadix-branches are fastigiate-erect and densely pilose.—Leaves about 3′ long, more than 1′ broad: broadest segments 4″–3″, narrowest 4‴ broad; spadix long-peduncled, 1½′–1′, secondary branches 5″ long, the latter bearing flowers almost to their base.—Hab. Dominica!, *Imr.;* Trinidad!, *Pd., Cr.,* gregarious, at 3000′ alt., Tamana mountains, Tocuche; [Guiana, equatorial Brazil].

16. **G. oxycarpa,** *Mart.* "Trunk 4′ high" (*Mart.*); *leaf-segments* 3–4-*jugal* adnate, broadly oblong (or partly lacerate), obliquely acute, subequal, little distant; *spadix-branches divided*, subfastigiate, *pubescent:* spathes several (3″ long): flowers 4–5-seriate, lax: lip of the alveole shortly deltoid or subtruncate, entire; *exterior ♂ perigone two-thirds as long as the interior: staminal tube short*, half as long as the latter; *berry subglobose with a bluntish broadly conical point* (3‴ long).—Leaves 3′ long, 1′ broad: segments 3½″–6″ broad, uppermost broadest; spadix long-peduncled, 2′–2½′, secondary branches 6″ long.—Hab. Trinidad !, *Cr.*, at Irais; [Haiti].

10. CALYPTRONOMA, *Gr.*

Flowers and *staminal tube* of *Geonoma*. *Anthers* sagittate: cells cohering except at the base. *Ovary* 3–celled, with 1–2 cells 1–ovulate, the rest abortive: *style* excentrical-terminal. "*Fruit* subangular, 1-seeded."—"A high, unarmed tree;" leaves *equally pinnatisect: pinnæ deeply reduplicate at the base, 2-fid at the top;* spadix *equalling the inner, large, rigid-leathery spathe:* branches 3-*partite:* divisions *long, thickish, bearing flowers to their base.*

This genus, constructed upon the *Elæis occidentalis*, Sw., is said to approach in habit *Euterpe*, but in character is somewhat analogous to *Calyptrogyne*, Wendl., from which however it is much distinguished by habit, by the infundibular, exserted staminal tube, the sagittate anthers (resembling those of *Geonoma synanthera*, Mart. t. 13), the structure of the ♀ flower, the divided spadix, and the basilar "2-valved" spathe. Swartz's description as far as it goes, is correct, except in the staminal tube, which he believed to be a corolla: from what he says of the fruit, it may be conjectured, that *Calyptronoma* will be distinguished from *Geonoma* in carpological characters.

17. **C. Swartzii,** *Gr.* "Trunk 50′–60′ high, smooth;" *leaf-segments linear-acuminate*, 2-fid; spadix-branches divided: alveoles hexastichous: lip deltoid-roundish, entire; staminal tube slender, shortly 6-fid.—Elæis occidentalis, *Sw.* (Geonoma, *Kth.*). Euterpe *sp., Pd. in Kew Museum.*—The trunk, if confidence is to be put upon Sloane's and P. Browne's synonyms, quoted by Swartz, would be "as thick as one's thigh, very hard, somewhat crooked, with a great swelling at the root;" leaves "5′–10′ long: segments 2½′–2′ long, 1½″ broad at the flat middle, 2-fid to 4″–6″ from the point, green, glabrous: double basilar insertion-line 5‴ broad; spadix 2′–3′ long, 1″ thick at the base, dissolved into a few primary branches: the secondary ones 6″–12″ long, 2‴–3‴ thick: alveoles 2‴–4‴ distant in each longitudinal series; inner spathe flattish, about 2″ broad above, externally smooth, dull-green, red within; flowers ternate in most alveoles, half-exserted, 2 lateral usually ♂, central ♀; perigonal leaflets of ♂ lanceolate-oblong, cartilaginous, brownish-purple, the exterior 1‴, the interior 2‴ long: staminal tube 3‴ long; ♀ perigone about 1‴ long: cupule calyptrate: remaining lower part somewhat adhering to the inner perigone.—Hab. Jamaica !, *Pd.*, in the lower region of the interior hills; Barbadoes? (*Sl.*); [South-eastern Cuba !, *Wr.* 1466].

Subtribe IV. *MANICARIEÆ.—Fruit* 3–1-*pyrenous: putamen thick: each with a single pore at the embryo-cavity. Leaves entire or pinnatisect: segments reduplicate.*

11. MANICARIA, *G.*

Perigone exterior and interior 3-phyllous or exterior ♂ 3-partite. *Stamens* numerous, rudimentary ones in ♀. *Ovary* 3-celled: stigmas 3, sessile, terminal. *Fruit* dry, echinate-verrucose, slightly 3–1-lobed: each putamen with a single, basilar pore. *Albumen* entire, hollow.—Unarmed, arboreous palms; leaves *pinnatinerved, entire, or pinnatisect;* spadix *axillary, simply branched, pyramidal:* spathe *resembling a bonnet, dissolved into reticulated, elastic fibres;* flowers *monœcious in the same spadix, sunk into the concavities of the rhachis:* bracts *marginal, spreading.*

18. **M. Plukenetii,** *Gr. and Wendl.* *Leaves obovate*, 2-fid (with an angle of 40° at the extremity), inciso-dentate above, *pinnatisect below:* lower segments linear or oblong-

linear, somewhat distant; exterior ♂ perigone 3-partite, half as long as the interior; *warts of the epicarp depressed.—Pluken. Phytogr. t.* 323. *f.* 3: *the fruit.* The character of the warts is taken from Plukenet's figure and Surinam-specimens.—M. saccifera, *Mart.* (*t.* 98, 99), has entire, oblong leaves, almost truncate at the summit: their teeth are equal to those of the upper part of our leaf, but their nerves are said to be twice as much distant (1″). Our leaf (perhaps only the upper part of one) is almost 3′ long, 2′ broad, entire from the summit to about the middle, with the midribs of the teeth 6‴ distant from each other: the lower part consists of obliquely adnate segments, 2–5 of them united into a cohering or lacerate blade, rarely single, these blades or single segments distant from each other for spaces often above 1″ ("from the beginning," *Cr.*). In the spadix and flowers no difference from *M. saccifera* was observed, except in the ♂ perigone: its exterior leaflets roundish (1‴ diam.), much imbricated, shortly cohering at the truncate base, interior ovate-oblong (2‴ long), valvate. Conical spathe 1½′ long, gradually acuminate (not pointleted, as in Jacquin's figure and specimens of *M. saccifera*); fruit 3–1-globose: each pyrena 2‴ diam.—Hab. Trinidad!, *Cr.*, at Irais; [Guiana!]. The fruit of *Manicaria* is often carried by currents to the shores of Barbadoes (*Pluken.*) and Jamaica (*Sl.*): the latter is unknown to me; and it is to be established, to which species the *Manicaria*, existing at Carthagena and in Panama, may belong.

Tribe II. *COCOINEÆ.—Fruit monopyrenous,* 1–3(–6)-*celled: putamen* 3(–6)-*porous.* —Leaves pinnatisect, rarely pinnatinerved-entire: segments reduplicate or flattish; flowers unisexual, usually monœcious in the same spadix; albumen entire.

12. DESMONCUS, *Mart.*

Perigone exterior small, subtruncate or 3-dentate, interior ♂ 3-phyllous, ♀ urceolate, subtruncate. *Stamens* 6. *Ovary* 3(–1)-celled, with 2 cells abortive: no cupule of abortive stamens: stigmas 3, terminal. *Drupe* 1-seeded: putamen 3-porous at the summit.—Stem *arundinaceous, scandent, prickly;* leaves *scattered:* rhachis *produced into a cirrhose extremity, with its segments transformed into hooks:* petiole *sheathing:* spadix *simply branched, axillary:* flowers *sessile;* drupes *small.*

19. **D. major,** *Cr. ms.* (*n. sp.*). *Leaf-segments* 20-*jugal, linear-acuminate,* flattish, partly clustered: rhachis prickly, covered with a blackish, deciduous tomentum: hooks stout, 6-jugal; spathe covered with brown prickles.—Inferior leaf-segments 1′ long, 5‴ broad, unarmed or with a few, distant prickles on the margin: hooks 3″–1″ long, channelled-3-gonal above the thickened transversely sulcate base: rhachis subterete below, with the upper side flattish, 3-gonal above: its prickles slender, scattered, the longest 6‴ long, most smaller; spathe 1′, its prickles 3‴–4‴ long.—Hab. Trinidad!, *Cr.*, at Caroni.

13. BACTRIS, *Jacq.*

Perigone ♂ exterior 3-partite or 3-fid, rarely 3-phyllous, interior 3-phyllous; ♀ exterior and interior urceolate, subtruncate or 3-dentate. *Stamens* 6–"12." *Ovary* 3(–1)-celled, with 2 cells abortive: no 6-dentate cupule: stigmas 3, sessile. Drupe 1-seeded: putamen laterally 3-porous.—Trunk *usually prickly along the leaf-sheaths;* leaves *often scattered, but chiefly approximate above, pinnatisect, rarely 2-fid-entire;* spadix *simply branched or simple, axillary;* flowers *sessile.*

Sect. 1. Eubactris.—(Syn. Sphærocarpæ, *Mart.*).—*Rhachis of the spadix produced.*

20. **B. simplicifrons,** *Mart. Wholly devoid of prickles, except on the margin of the leaf-summits;* trunk low (3′–6′ high, the leaves included), arundinaceous: *leaves 2-fid-entire:* divisions oblong, curved-acute, broadly adnate at the flat base, diverging in an acute angle; *spadix simple,* short, nodding; inner spathe as long, glabrescent; drupe small, subglobose.—*Mart. Palm. t.* 73 C. *fig.* 1, 2.—Leaf-divisions 10″–12″ long, 2½″–3″ broad at the middle and at the base: prickles black, setaceous, 2‴–3‴ long: petiole 3″–6″, spadix 1″–2″ long, the latter shortly peduncled; drupe "red," 3‴ diam., with a truncate point.—Hab. Trinidad!, *Cr.*, at Irais; [Venezuela!, Guiana!, in moist woods; equat. Brazil].

21. **B. acanthocnemis,** *Mart.* *Trunk* "low (3′–4′ high), arundinaceous," *prickly at the leaf-sheaths:* prickles long-setaceous, black; *leaves 2-fid-entire or irregularly cut* into 2–3 segments on one or both sides: divisions broadly oblong or narrow, if cut, curved-acute, with a few marginal prickles or bristles below the point, flat at the adnate base, curved-diverging in an acute angle: petiole prickly at the base; spathe *unarmed*, glabrescent, spreading from the axil.—Allied to the preceding: spadix probably simple, but abortive in our specimens; segments of the 2-fid leaf 1′ long, 4″–5″ broad, in the cut leaf often distant, 3″–10‴ broad: prickles 10‴–6‴, petiole 6″–8″, spathe 3″ long: no peduncle.—Hab. Trinidad!, *Pd.;* [Guiana].

22. **B. Pavoniana,** *Mart.* "Trunk low;" *leaves pinnatisect: segments numerous, grass-like, linear-acuminate* or the uppermost broader by cohesion, glaucous and minutely puberulous or glabrescent beneath, approximate, subequidistant, reduplicate at the base: *rhachis armed with very long black prickles* and rare bristles, keeled above.—Flowers unknown; leaf-segments (in our specimens, which are cut off, perhaps about the middle of the rhachis) more than 30-jugal, 3‴–6‴ distant, 12″–8″ long, 4‴–2‴ broad, superior gradually shorter, the uppermost cohering ones sometimes 6‴–8‴ broad: prickles scattered or clustered, slender, the greatest 2″ long.—Hab. Antigua!, *Wullschl.*, Blubber valley; [Portorico].

23. **B. Plumieriana,** *Mart.* Trunk "cæspitose (12′–40′ high)," densely annulate with rings of long prickles: all prickles black; *leaves rosular* at the summit of the trunk, *pinnatisect: segments lanceolate-linear, acuminate*, reduplicate at the transverse base, glabrous, inferior approximate in clusters, superior subequidistant, the young armed with small prickles: *rhachis densely prickly;* exterior *spathe* one-third to one-fourth as long as the interior, armed with accumbent, short prickles, the *interior* (1′–2′ long) densely covered with long spreading or recurved prickles, *twice as long as the spadix;* spadix branched: its peduncle very prickly; exterior ♂ perigone minute, much shorter than the interior; drupe depressed-globose (5‴ diam.).—Cocos guineensis, *L.* (*ex syn. Sl.*), *Sw.* B. minor, *Sw.* (*non Jacq.*).—Trunk (in the Kew museum) about 3″ thick: the rings of prickles at intervals of about 6‴ throughout its length; prickles of the leaf-rhachis 6‴, of the peduncles, the exterior spathe and the leaf-segments 3‴–4‴, of the interior spathe 2″–3‴ long, the latter very unequal; leaf-segments 2′ long, 1″ broad; spadix-branches 6″–3″, inner ♀ perigone 2‴ long.—Hab. Jamaica!, *Pd.*, common in the inland woods, Manchester; [Cuba! to French islands].

The following fragments of the same or an allied *Bactris*, sent from Jamaica as *B. major*, Jacq., deserve a notice:—1. Mr. Wilson's specimen of a spathe, 7″–8″ long: its black prickles densely parallel, spreading, subequal, 4‴–6‴ long; ♀ interior perigone 3–4 times as long as the repand, exterior one. 2. Leaf-segments (sent by Mr. March) $2\frac{1}{2}$′ long, 16‴ broad, with persistent, 2‴ long, setaceous prickles on the margin and midrib, confined chiefly to its acuminate part.

24. **B. Cuesa,** *Cr. ms.* (*n. sp.*). Prickles black; *leaves* large, *pinnatisect: segments broadly lanceolate-linear, shortly acuminate*, reduplicate at the obliquely adnate base, glabrescent, with small, distant, marginal bristles towards the top, *unequidistant:* 4–5 equidistant in each special series: *rhachis prickly*, broad, keeled above; inner *spathe* ($1\frac{1}{2}$′ *long*), covered with recurved or diverging prickles, *shortly exceeding the spadix;* spadix densely branched: its peduncle prickly; *exterior ♂ perigone* short, 3-*phyllous*, ♀ half as long as the interior; drupe (young) ovoid-globose.—Prickles 8‴–2‴ long, setaceous; leaf-segments 3′ long, 20‴–18‴ broad at the middle, double basilar insertion-line 6‴–4‴, rhachis gradually tapering upwards, inferior part 8‴ broad; rhachis of the spadix 6″ long above the peduncle, branches 6″–4″ long; exterior ♂ perigone $\frac{1}{3}$‴ long: leaflets reniform, interior ones ovate-oblong, 2‴ long, equalling the 6 stamens: rudiment of the pistil subglobose; exterior ♀ perigone truncate, 1‴ long, interior minutely 3-dentate, 2‴ long, devoid of sterile ♂ parts.—Hab. Trinidad!, *Cr.*, at Maracas, Maraval.

Sect. 2. Augustinea, *Karst.* (Syn. Oocarpæ, *Mart.*).—*Rhachis of the spadix reduced: branches fascicled at the top of its peduncle.*—Leaves pinnatisect: segments equidistant.

25. **B. Cruegeriana,** *Gr. and Wendl.* (*n. sp.*). Prickles black; *leaf-segments broadly lanceolate-linear, shortly acuminate*, reduplicate-concave at the obliquely adnate base, glabrescent, with small accumbent bristles along the margin, and a few on the midrib above

towards its top: *rhachis armed with distant, long prickles,* keeled above; exterior *spathe* unarmed, one-fourth as long as the *interior,* the latter (1½′ *long*), *prickly above, with distant,* slender, spreading *prickles,* tapering downwards from the middle, unarmed and appressed-tomentose below it, *equalling the spadix;* spadix long-peduncled: peduncle unarmed, pubescent, about as long as the erect branches; *exterior ♀ perigone nearly as long as the interior;* "drupe globose (15‴–18‴ diam., *Cr.*)."—Prickles on the leaf-rhachis 1″, on the segments 1‴, on the spathe 8‴–6‴ long, the latter or the fascicles of them 4‴-6‴ distant from each other; leaf segments 1½′–1′ long, 12‴–14‴ broad, each side of its triangular rhachis 2‴ broad below, upper part of the opened inner spathe 1″, inferior 5‴ diam., exterior ♀ perigone campanulate, truncate, 2‴ long, interior minutely 3-dentate, devoid of sterile ♂ parts. —HAB. Trinidad!, *Cr.*, uncommon, at Caroni.

14. ASTROCARYUM, *Mey.*

Perigone of *Bactris:* ♀ flowers distant from the amentaceous ♂ ones. *Stamens* 6 ("or more"). *Ovary* of *Bactris:* stigma 3-lobed. *Drupe* of *Bactris:* albumen hollow in the centre.—Trunk *annulate, prickly, rarely none;* leaves *rosular at its top;* spadix *simply branched:* ♂ flowers *in the contiguous alveoles of the ament,* ♀ *either distant below them, or inserted into the rhachis:* spathe *prickly.*

26. **A. aureum,** *Gr. and Wendl.* (*n. sp.*). "Trunk and petioles armed with 6″–12″ long prickles" (*Cr.*); *leaf-segments* lanceolate-linear, long-acuminate, shining above, *aureate-olivaceous beneath* by appressed, deciduous down between the green nerves, with short prickles along the summit; spadix (3′ long): branches nodding: ♂ *aments slender, half to one-third as long as their peduncle:* alveoles puberulous: ♀ *flowers distant along the peduncle of the ament;* ♂ exterior perigone minute, 3-partite; ♀ *exterior perigone* obliquely ovate, conical, 3-dentate, *pubescent, half as long again as the interior, the latter puberulous,* ciliate, 3-dentate.—Nearly allied to *A. Tucuma,* Mart. (t. 65), but distinguished by the peculiar down of the leaves, the long-peduncled aments, and a few minute characters in the flower. Leaf-segments rigid, reduplicate, 4′ long, 2″ broad: prickles black, those of the rhachis 4‴, of the leaves 1‴–2‴ long; ♂ aments 6″–4″ long, 3‴ thick, ♀ flowers 6‴ long, about 1″ distant from each other, sunk into a cupular bract; ♂ perigone with the exterior segments deltoid, subentire, the interior leaflets spathulate-oblong, exceeded by the stamens; ♀ perigone hard, whitish.—HAB. Trinidad!, *Rye, Cr.*, at Irais.

15. ACROCOMIA, *Mart.*

Perigone exterior and interior 3-phyllous: ♀ flowers distant below the amentaceous ♂ ones. *Stamens* 6. *Ovary* of *Bactris,* but surrounded by a 6-dentate cupule: stigmas 3. *Drupe* 1-seeded: putamen 3-porous about the middle.—Trunk *arboreous, densely prickly;* leaves *rosulate at its summit:* petiole *and* rhachis *prickly;* spadix *simply branched:* ♂ flowers *in the contiguous alveoles of the ament,* ♀ *distant, sessile along its peduncle.*

27. **A. sclerocarpa,** *Mart.* "Trunk thickened at the base;" leaf-segments narrowly linear, acuminate, reduplicate-convolute, puberulous-glaucescent beneath; *spathe* (3′–1½′ long) *densely covered with black prickles,* glabrescent; drupe globose (1½″ diam.).—*Mart. Palm. t.* 56.—Trunk 15′ (*Sl.*) –30′ (*Mart.*) high; leaf-segments 2½′ long, 4‴ broad: prickles of their rhachis 1½″–2″, of the spathe 6‴–8‴ long; spadix-branches 1′, ♂ part 10″–8″ long.—HAB. Jamaica!, *Wils.;* Grenada (*Kew Mus.*); Trinidad!, *Cr.;* [Guiana!, Brazil].

28. **A. lasiospatha,** *Mart.* "Trunk tapering from the ventricose middle part to the base; leaf-segments linear, villous beneath;" *spathe* (4′–2′ long), *densely rusty-villous,* devoid of ("or sparingly armed with") prickles; peduncle of the spadix armed with long, black prickles; "drupe depressed-globose" (*Sl., Mart.*) —Cocos aculeata, *Sw.* (*non Jacq.*). C. fusiformis, *Sw.*—"Trunk 30′–10′ high: prickles in rings, approximate, 1″ long;" drupe "shape of a wild apple" (*Sl.*).—HAB. Jamaica!, *Wils.*, in savannahs; Barbadoes; [Haiti to Guiana].

To *Aiphanes,* W. (*Martinezia.* Mart.), a genus distinguished from *Acrocomia* by sessile, not amentaceous ♂ flowers, belongs the Grigri Palm of Martinique, under which name fibres were sent from Grenada. This is *A. corallina,* Wendl. ms. (*Martinezia,* Mart.), a prickly palm with the trunk 20′ high, and "red, globose drupes of 6‴–8‴ diam." (*Jacq. Amer.*

Pict. t. 263. *f.* 89).—*Acrocomia globosa*, Lodd. (introduced from S. Vincent) is according to Wendland also an *Aiphanes*, compared on account of its "linear, truncate leaf-segments," though doubtfully, by v. Martius with *Acroc. fusiformis*, Mayc., Fl. Barbad.

16*. ELÆIS, *Jacq.*

Flowers monœcious, ♂ and ♀ in distinct spadices, sunk into alveoles. *Perigone* exterior and interior of distinct leaflets. *Stamens* 6, monadelphous. *Ovary* 3-celled: stigmas 3. *Drupe* 1(–3)-seeded: putamen 3-porous near the summit. *Albumen* hollow in the centre. —Arboreous palms; trunk *unarmed, but covered with spiny, persistent petioles;* spadix *simply branched;* branches *conglobate, amentaceous.*

29*. **E. guineensis,** *L.* Leaf-segments linear-lanceolate; branches of the spadix produced beyond the flowers into subulate spines: spines long in the ♀ aments, shorter in ♂, ♂ aments cylindrical; *bracts of the superior ♀ flowers exceeding them,* spinescent.—*Jacq. Amer. Pict. t.* 257. *Mart. Palm. t.* 54.—Trunk "20′–30′ high;" leaf-segments 3′–1½′ long: spadix ovoid, about 1′ long: terminal spines in ♂ 8‴, in ♀ 2″–1″; drupe ovoid, 1″–2″ long.—Hab. Naturalized and cultivated in Jamaica!, *Kew Mus.*, Antigua!, *Wullschl.*, Trinidad!, *Cr.;* [Guiana! and Brazil, introduced from trop. Africa].

17*. COCOS, *L.*

Perigone exterior and interior 3-leaved. *Stamens* 6, included. *Ovary* 3(–1)-celled: stigmas 3. *Fruit* woody, 1-seeded: putamen 3-porous at the base, 3-cristate at the summit. *Albumen* hollow.—High unarmed palms; spadix *simply branched.*

30*. **C. nucifera,** *L.* "Trunk (60′–80′ high) flexuose, unequally annulate, thickened at the base; leaves spreading: segments narrowly linear-lanceolate, acuminate;" ♀ flowers subglobose; *nuts large, subtrigonal-ovate.*—*Jacq. Amer. Pict. t.* 253. *Tuss. Fl.* 4. *t.* 34. *Desc. Fl.* 1. *t.* 21, 22.—Hab. Cultivated and naturalized in Jamaica (*Sl.*), Antigua!, *Wullschl.*, and other islands, along the seashore, [and in most tropical countries: origin, western coast of Panama].

18. ATTALEA, *Kth.*

Character of *Cocos*, but nut 3(2–5)-celled, 3(–5)-porous at the base: putamen rugose.

31. **A. Cohune,** *Mart.* *Nut ovoid, shortly beaked at the top:* putamen "3-celled." —*Mart. Palm. t.* 167. IV.: the fruit, the only as yet known organ.—Nut brown, roughish, 2½″ long, 1½″ broad: beak compressed-conical, 4‴ long.—Hab. Jamaica!, Kew Museum; [Honduras].

19. SYAGRUS, *Mart.*

Character of *Cocos*, but inner side of the putamen rugose, except in three smooth bands. —"Pericarp *somewhat pulpy.*"

32. **S. amara,** *Mart.* "Trunk (50′–beyond 100′ high) annulate; leaf-segments linear, acuminate; interior leaflets of ♂ perigone linear-oblong; ♀ flowers ovate-globose; *fruit ovoid-oblong, blunt at both ends* (3″ long).—*Mart. Palm. t.* 166. II.—Cocos, *Jacq.*—"Habit of *Cocos nucifera*" (*Jacq.*)—Hab. Jamaica!, *Kew Mus.*: the spadix and a drawing of the fruit; Caribbean islands (*Jacq.*), in mountain-woods.

20. MAXIMILIANA, *Mart.*

Character of *Cocos*, but fruit drupaceous, with a smooth, pointed putamen.—Flowers *approximate, ♂ amentaceous, ♀ few, below the former.*

33. **M. caribæa,** *Gr. and Wendl.* (*n. sp.*). Leaf-segments broadly linear, eroded-bluntish, unequidistant, 4–5 in each special series; superior spadix-branches ♂, inferior androgynous; ♀ *flowers* ovate-oblong, about 6 below the ♂ ament, *unilateral; stamens much longer than the perigone:* anthers wholly exserted, long linear, curved; ♀ perigone half as

long again as the bracts.—Habit of *M. regia*, Mart. (t. 95), but leaf-segments broader, little tapering towards the eroded point. Leaves large, pale-green: segments 3′–3½′ long, 2″ broad, reduplicate, obliquely inserted at the double base, densely veiny with transverse veins: sides of the rhachis flattish, 1″ broad; ♂ perigone 1‴ long: exterior leaflets deltoid, interior much longer, ovate-oblong, blunt: filaments ⅔‴, anthers 5‴–3‴ long; ♀ perigone 9‴ long, ovate-oblong, cartilaginous, pale, glabrous: bracts 3, appressed, broadly ovate, imbricate: exterior leaflets ovate, bluntish, as long as the interior, imbricate, interior ovate-oblong, twice as long as the truncate capsule; ovary slightly tomentose: style short, 3-partite; stigmas revolute.—HAB. S. Kitts!, Kew Museum; Trinidad!, *Cr.*

CXXXII. COMMELYNEÆ.

Flowers complete: calyx and corolla mostly 3-phyllous. *Stamens* 6, or fewer by abortion, usually hypogynous. *Ovary* syncarpous: cells few–1-ovulate: style simple. *Capsule* usually loculicide. *Albumen* amylaceous, bearing the embryo in a special, peripherical cavity, which is closed by an operculum.—Herbs; leaves *entire: blade inserted into a sheath.*

1. DICHORISANDRA, *Mik.*

Calyx and *corolla* persistent. *Stamens* 6–5; anthers opening by a terminal pore. *Ovary* 3-celled; cells few-ovulate. *Capsule* baccate, 3-valved.—Stem *leafy;* flowers *blue, fascicled in a flexuose raceme.*

1. **D. Aubletiana,** *R. S.* Trailing-diffuse, downy chiefly on the sheaths and pedicels; leaves oblong, pointleted, rounded at the base, glabrous, subciliolate; raceme short, terminal; petals bluntly obovate, violet-blue; aril "orange-coloured."—*Aubl. t.* 12.—Commelyna hexandra, *Aubl.* Tradescantia divaricata, *V.*—3′–4′ high; leaves 5″–2″ long, 1½″–¾″ broad.—HAB. Trinidad!, *Cr.;* [Venezuela to Brazil!].

2. CAMPELIA, *Rich.*

Calyx unequal, succulent in fruit. *Corolla* persistent. *Stamens* 6. *Ovary* 3-celled: cells 2-ovulate. *Capsule* 3-valved, included within the calyx.—Stem *leafy;* peduncles *axillary, perforating the base of the sheath, terminated by a contracted umbel:* involucre 2-*leaved;* flowers *white.*

2. **C. Zanonia,** *Rich.* Leaves lanceolate-oblong, acuminate, downy beneath and at the sheaths; peduncles long, exceeded by the leaves; involucral leaves subcordate, acuminate.—*Sl. t.* 147. *f.* 1.—Commelyna, *L.* Tradescantia, *Sw.*—2′–4′ high; larger leaves 6″–7″ long; umbels 6–10-flowered: pedicels thickish, short; filaments pilose.—HAB. Jamaica!, *Pd., March,* in mountain-woods; [Cuba! and Mexico! to Brazil!].

3. TRADESCANTIA, *L.*

Calyx and *corolla* equal, persistent. *Stamens* 6(–3). *Ovary* 3-celled: cells 2- or 5–1-ovulate. *Capsule* membranaceous, 3-valved.—Flowers *in simple or branched umbels, ephemeral.*

§ 1. *Involucre minute, membranaceous; umbels peduncled, cymose, or fascicled (solitary), often few-flowered.*

3. **T. geniculata,** *Jacq.* Diffuse, hairy; leaves cordate-ovate or ovate-oblong, cuspidate: sheath pilose, loose; umbels few-flowered, cymose, or paniculate; *sepals small, glabrous, much shorter than the spreading pedicels;* petals white; *filaments equal, pilose:* anther-cells globose, distant.—*Plum. Ed. Burm. t.* 116. *f.* 2. *Jacq. Amer. Pict. t.* 95.—Sepals 1‴ long, equalling the petals.

α. Leaves cordate-ovate (1″–2″ long), hairy.

β. effusa, Mart. Leaves ovate-oblong (1½″–3½″ long), less hairy.—*Mart. Fl. Bras.* 15. *t.* 34.—T. floribunda, *Kth.* Callisia umbellulata, *Sieb. Mart.* (*non Lam.*)

HAB. Antigua!, *Wullschl.* (α), Dominica! (β), S. Vincent!, *Guild.*; Trinidad!, *Cr.*, Gulf islands (α), Marattas (β): [Cuba! and Mexico to Brazil!].

4. **T. elongata,** *Mey.* Ascending, glabrescent; leaves oblong-lanceolate, pointed: sheath pilose-ciliate; *umbels contracted:* peduncle slender; *sepals* oblong, blunt, *glabrescent, much longer than the pedicels,* as long as the rosy petals; *filaments equal, pilose:* anther-cells oblong, distant.—T. guianensis, *Miq.*—Leaves 2″–3″, sepals 1½‴ long.—HAB. S. Vincent!, *Guild.*; [New Granada!, Ecuador!, Guiana!].

5. **T. multiflora,** *Sw.* Ascending, glabrescent; leaves ovate, subcordate-rounded at the base, pointed: sheath pilose-ciliate; umbels fascicled-single, terminal and axillary: peduncle hairy, shorter than the leaf; *sepals* ovate, pointed, *hairy, about as long as the pedicel,* equalling the white petals; *filaments* 3, *hairy above,* 3 *shorter glabrous:* anther-cells subglobose, diverging.—*Jacq. Ic. Rar. t.* 355.—T. procumbens, *W.*—Leaves 1″–2″, sepals 1‴ long.—HAB. Jamaica!, all coll., in moist places; [Venezuela!, New Granada!].

6. **T. umbellata,** *V.* Ascending, glabrescent; leaves lanceolate-oblong, uppermost ovate, pointed: sheath pilose-ciliate, loose; umbels terminal, fascicled; *sepals* ovate-oblong, pointed, *glandular-hairy, about as long as the pedicel,* equalling the white petals; *filaments* 6, *all glabrous,* 3 *shorter:* anther-cells elliptical-oblong, parallel, approximate.—Leaves 3″–2″, sepals 1½‴ long.—HAB. Trinidad!, *Cr.*; [equat. Brazil!].

§ 2. *Involucre of* 2(–"3") *large, conduplicate leaves, including a sessile umbel.*—Nearly stemless; leaves rosulate: scapes (peduncles) axillary. (*Rhœo,* Hance.)

7. **T. discolor,** *Sw.* Glabrous; leaves oblong-linear, pointed, purple beneath, much longer than the scapes; *involucral leaves cordate-roundish,* pointed, *exceeding the many-flowered,* bracteolate *umbel;* sepals membranaceous, little exceeding the white petals; filaments pilose: anthers obcordate.—*Sm. Ic. Rar. t.* 10.—Leaves 8″–12″, scapes 2″, involucre 1″, sepals 2‴ long.—HAB. S. Vincent!, *Guild.*, introduced into Jamaica (*Sw.*); [Guadeloupe!, on rocks].

4. CALLISIA, *L.*

Calyx 2–3-phyllous, persistent. *Corolla* 2–3-phyllous, deciduous. *Stamens* 3–1: filaments glabrous. *Ovary* 2–3-celled: cells 2-ovulate. *Capsule* membranaceous, 2–3-valved.—Creeping *or* ascending, delicate, small-leaved herbs; flowers *small, white, fascicled (-single) or glomerate.*

8. **C. repens,** *L.* Leaves cordate-deltoid, clasping at the base, cuspidate, ciliate, shorter than the internode: *flowers glomerate in the axils; sepals* 3, *unequal;* stamens 3; capsule 2-celled: valves oblong; seeds depressed-trapezoid, rugose.—*Jacq. Amer. Pict. t.* 14.—Tradescantia Callisia, *Sw.*—Leaves 6‴–12‴ long.—HAB. Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [Haiti to French islands; Venezuela! to Brazil!].

9. **C. umbellulata,** *Lam.* Leaves ovate, rounded at the base, cuspidate; *flowers in few-flowered fascicles* along the subaphyllous summit of the branches; *sepals* 2–3, equal; stamens 1–2(–3); capsule 2–3-celled: valves roundish; seeds depressed-orbicular, slightly rugose-striate.—Tradescantia monandra and cordifolia, *Sw.!* C. monandra, *R. S.*—Leaves 4‴–8‴(–12‴) long.—HAB. Jamaica!, *Sw.*, among grasses in the mountains; [Cuba! and Venezuela! to Peru!].

5. COMMELYNA, *L.*

Calyx unequal. *Corolla* deciduous. *Stamens* 3 fertile: 3–2 sterile, with a cross-shaped, rudimentary anther. *Ovary* 3-celled: 2 cells 2-, the third 1-ovulate. *Capsule* membranaceous, 2-valved: the third cell closed or abortive.—Peduncles 2-*fid, bearing a conduplicate or cucullate bract at the division: one of the two branches* ♂, *sterile, or abortive.*

10. **C. cayennensis,** *Rich.* Creeping, glabrous; leaves small, ovate-oblong or oblong-lanceolate: sheath loose, ciliate; *bract conduplicate, cordate-ovate, pointed:* both special peduncles flowered; corolla blue, unequal, small; seeds scrobiculate.—*R. P. Fl. Peruv. t.* 72. *a.*—C. agraria, *Kth.*, polygama, *Schlecht.*, glabra. *Mey. esseq.!*, gracilis, *R. P.*—Leaves 1″–2″(–3″), bracts 6‴–12‴ long.—HAB. Jamaica!, *Wullschl.*; S. Kitts!, *Els.*, in cultivated grounds; Trinidad!, *Sch.*; [Missouri! to Brazil!; Galapagos!; Canary islands!, trop. Africa].

11. **C. persicarifolia,** *DC.* Ascending, glabrous; leaves oblong-lanceolate, acuminate, oblique above the minutely contracted base: sheath closed, rusty-ciliate; *bract conduplicate, orbicular with a minute point,* ciliate at the base: both special peduncles flowered; "corolla blue, subequal."—*Red. Lil.* 8. *t.* 472.—1′–1½′ high; leaves 3″–5″ long; bract 1″ diam.: one of the special peduncles exserted.—HAB. Trinidad!, *Cr.*; [Cuba!].

12. **C. elegans,** *Kth.* Diffuse, puberulous; leaves elliptical-lanceolate or lanceolate, pointed, contracted at the base: sheath ciliate; *bract turbinate-cucullate, with a deltoid point:* one of the special peduncles abortive; corolla blue or white, unequal; seeds smooth. —*Mart. Fl. Bras.* 15. *t.* 37. *f.* 2: *analyt.*—Leaves 1½″–3″ long; bract 8‴–10‴ diam.; larger petals 4‴ long —HAB. Jamaica!, *March, Wullschl.*; Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [Cuba! to Brazil].

6. RAPATEA, *Aubl.*

Calyx surrounded by imbricated, scaly bracts. *Corolla* 3-lobed. *Stamens* 6, inserted into the corolla: anthers with a terminal appendage. *Ovary* 3-celled: cells 1-ovulate. *Capsule* membranaceous, 3-valved.—Stemless bog-plants; leaves *rosular, distichous, ensate; flower-heads or* umbels *supported by a 2-partite, compressed involucre;* corolla *yellow.*

13. **R. paludosa,** *Aubl.* Scape compressed, 2-winged towards the thickened summit; leaves linear-lanceolate, narrowly acuminate, long-tapering at the base; segments of the involucre subulate, exceeding the umbel: bracts oblong, acuminate; anthers linear; appendage purple.—*Aubl. t.* 118.—Leaves 2′–5′ long, exceeding the scape.—HAB. Trinidad!, *Cr.*, in swampy woods; [Guiana! to Brazil].

CXXXIII. XYRIDEÆ.

Flowers complete. *Stamens* 3, epipetalous or hypogynous. *Ovary* free; ovules ∞, atropous. *Capsule* 3-valved. *Albumen* amylaceous: embryo free at its summit.—Rush-like herbs; flowers *usually in heads.*

1. XYRIS, *L.*

Sepals 3, glumaceous: 2 keeled, the third clasping, deciduous. *Petals* 3, cohering by their slender claws. *Stamens* epipetalous, alternating with plumose (-2-fid) sterile filaments: anthers extrorse. *Style* 3-fid. *Capsule* 1-celled.—Leaves *most rosular, ensate;* flowers *in heads: single flowers in the axils of coriaceous bracts.*

Sect. 1. EUXYRIS, *Endl.—Capsule medianicide: seeds very numerous, along the middle line of the valves.*

1. **X. communis,** *Kth.* Glabrous; stem 1-angled, subcompressed at the thickened summit; *leaves grass-like, linear-acuminate, with a bluntish point,* exceeded by the stem; *head* ovoid, *many-flowered:* bracts obovate roundish, shining, entire: dorsal area ovate; keel of the lateral sepals villous-ciliate above.—*Mart. Fl. Bras.* 15. *t.* 29.—X. Sellowiana, *Kth.* X. laxifolia, *Mart.*—1′–3′ high; leaves somewhat flaccid, 4‴–2‴ broad; corolla yellow.—HAB. Trinidad!, *Pd., Lockh., Cr.*, in all moist savannahs; [Venezuela! to Montevideo!].

Sect. 2. NEMATOPUS, *Seub.—Seeds free from the capsule-valves: funiculi erect, central.*

2. **X. glabrata,** *Gr.* Nearly glabrous; stem filiform, angular, much longer than the leaves; *leaves narrowly linear,* acuminate: sheath often with marginal wool at its base; *head* globose-ovoid, 4–8-*flowered:* bracts oval, bluntish or emarginate-mucronate, slightly lacerate along the margin: the lanceolate dorsal area of the interior ones confined to the upper part; keel of the lateral sepals hispidulous-lacerate above.—X. americana, *V.* (*ex descr., non Aubl.*) X. savanensis, *β.* glabrata, *Seub.*—Distinguished from the similar *X. savanensis*, Miq., by the smooth leaves, and the interior bracts narrower, less rounded, and not entire. 12″–8″ high, 1-leaved above the base; rosular leaves 3″–4″ long, ⅓‴–½‴ broad; head 2‴ long: corolla-lobes obliquely spathulate.—HAB. Trinidad!, *Cr.*, Savannah de Aripa; [Guiana, Brazil].

3. **X. americana,** *Aubl.* Glabrous; stem low, filiform, subcylindrical, much longer than the short leaves; *leaves setaceous-filiform; head* small, ovate-oblong, 2–4-*flowered;* bracts ovate-lanceolate, pointed or bluntish, entire: dorsal area oblong-linear; keel of the lateral sepals smooth.—*Aubl. t.* 14.—X. cærulea, *Lam.* Abolboda Aubletii, *Kth.*—Habit of *X. tenella*, Kth. (Fl. Bras. 15. t. 28. f. 3), which is said to have broader leaves and hispidulous sepals. 4″–5″ high; leaves very narrow, 6‴–10‴, head 1½‴ long; corolla "blue;" stigmas capitate; capsule ellipsoidal, 1-celled: central funiculi numerous, the interior two-thirds as long as the valves.—Hab. Trinidad!, *Pd.*, Savannah de Aripo; [Guiana!, Brazil!].

2. MAYACA, *Aubl.*

Sepals 3, herbaceous. *Petals* 3, distinct. *Stamens* alternating with the petals: anthers opening at the summit. *Style* simple. *Capsule* 1-celled: seeds costate, inserted along the middle line of the valves.—Moss-like, creeping, *or* floating, leafy herbs; leaves 1-*nerved, spreading;* peduncles *axillary,* 1-*flowered.*

4. **M. fluviatilis,** *Aubl.* Leaves linear-acuminate or notched at the apex; *peduncles spreading,* half as long again or *twice as long as the leaves;* petals "white;" anthers at length 1-celled, corniculate at the summit, opening below it by a broad foramen; capsule 8–6-seeded.—*Aubl. t.* 15.—M. Aubletii, *Schott.*, *Endl.*—Branches 2″–6″, leaves 3‴, sepals and capsule 2‴ long.—Hab. Jamaica!, *Al.*, *March;* Trinidad!, *Pd.*, *Cr.*, in wet places and running streams of the savannahs; [Guiana, Brazil!].

CXXXIV. RESTIACEÆ.

Flowers glumaceous: perigone usually 2-seriate. *Stamens* 6–3. *Ovary* free, syncarpous, rarely apocarpous: cells 1-ovulate: ovule pendulous, atropous. *Seed* of *Xyrideæ.*—Rush-like herbs: flowers *clustered in the axils of bracts, often unisexual.*

1. ERIOCAULON, *L.*

Inflorescence androgynous. *Perigone* exterior 3–2-phyllous, interior ♂ 3–2-lobed, ♀ 3–2-phyllous ("rarely none"). *Stamens* 6–4, at the summit of the perigonial tube: anthers 2-celled. *Style* 3–2-fid: stigma simple. *Capsule* loculicide.—Leaves *grass-like, often pellucid, usually rosular;* scape (*or* peduncle) *simple, included at the base within a closed sheath;* flowers *in a terminal, contracted, dense umbel;* interior perigone *mostly with a gland at the lobes.*

1. **E. cæsium,** *Gr.* (*n. sp.*). *Stem* long, *submerged, leafy; leaves hair-shaped, flexuose,* 1-*nerved,* internally partitioned, pellucid; peduncles numerous at the summit of the stem, 3–4 times as long as the 3–4-dentate sheath; *heads* (1‴ diam.) lurid-grey, *densely puberulous* at the summit of the flowers; *exterior bracts roundish,* glabrous; ♂ flowers 6-androus, ♀ interior perigone glabrous, glandular; seeds ovoid-oblong, nearly smooth.—Distinguished from the allied *E. melanocephalum*, Kth., and the East Indian *E. setaceum*, L., by the sheath, the bracts, and the down of the heads. Stem 4″–6″ long, floating with the peduncles incurved, covered its whole length by densely approximate, 1″–2″ long leaves; most peduncles 3″–4″ long; head depressed-globose; flowers much exceeding the exterior bracts, ♀ numerous, as long as their pedicel, ♂ exterior, shortly pedicellate; 3 exterior perigonal leaflets obovate, puberulous above, 3 interior ♂ lobes as long as the filiform tube, unequal, oblong, slightly puberulous at the glandular extremity, 3 interior ♀ leaflets oblong-linear.—Hab. Trinidad!, *Cr.*, in savannahs, Aripa, Omara.

E. Humboldtii, Kth. (a large, terrestrial species), and *Pæpalanthus fasciculatus*, Kth. (3-androus), occur in Mr. Purdie's Trinidad collection: but of both Mr. Crueger doubts this locality, while both are widely diffused on the continent.

2. TONINA, *Aubl.*

Inflorescence androgynous. *Perigone* exterior 3-phyllous, interior ♂ pyriform, 3-dentate,

3-androus, ♀ abortive: the rudiments long-hairy. *Ovary* 3-coccous, with as many central, sterile pistils; style 3-fid: stigma 2-fid. *Carpids* medianicide.—Stems *long, leafy, creeping, or "floating;"* leaves *recurved-spreading, broadly linear-acuminate, bearded-ciliate at the clasping base;* peduncles *short, lateral, simple, exceeded by the basilar bract;* flowers *in a pea-sized cluster, exceeded by the oblong, cuspidate, glumaceous, hairy bractlets,* ♂ and ♀ in pairs, the former pedicellate.

2. **T. fluviatilis,** *Aubl.* Stem 4″–12″, leaves 4‴–8‴, peduncle 3‴–4‴ long; glumes brownish, membranaceous.—HAB. Trinidad!, *Cr.:* [Guiana, Brazil!].

CXXXV. GRAMINEÆ.

Flowers in spikelets, apetalous, enclosed by glumaceous bracts: the primary bracts (the glumes) distichous along the axis (the rhachis), the secondary (the paleæ) alternating with the former, single below the minute 2 (3-0) sepals (the lodiculæ), usually 2-nerved. *Stamens* usually 3, hypogynous. *Ovary* simple: ovule single, lateral: style mostly 2-cleft: stigmas bearing collecting hairs. *Fruit* a caryopsis. *Embryo* on the outside of the amylaceous albumen, with a dorsal appendage (the scutellum).—Stem (culm) *jointed:* internodes *hollow:* leaves *distichous:* sheath *split, often with a stipular appendage (the ligule) at the base of the blade;* spikelets paniculate or spicate.

The *Cerealia*, or corn-plants, cultivated in the West Indies, are: maize, or Indian corn (*Zea*), Guinea-corn (*Sorghum*), Chinese corn (*Setaria italica*), millet (*Panicum miliaceum*), rice (*Oryza sativa*), the latter rarely, *Panicum maximum* is cultivated for fodder. Excellent pasture-grasses are *Panicum molle, Paspalum compressum* and *notatum* (while other *Paspala*, e. g. *P. conjugatum* and *filiforme,* are refused by cattle), *Anthephora elegans.* In the sugar-cane (*Saccharum officinarum*) and some other grasses the gum of the sap is replaced by sugar. An aromatic principle exists in *Vetiveria.* Silex is abundant in the nodes of the bamboo (*Bambusa*), and it occurs generally in the leaf-sheaths. The bamboo affords fibre, and is, as well as cane (*Arundo*), employed for thatches, poles, and living fences.

In the description of the bracts of grasses I adopt here the terms lately proposed by Mr. A. Brown, as being more in accordance with the homologous organs of *Cyperaceæ.* Hence all bracts proceeding from the rhachis of the spikelet are called glumes (comprising "glumæ et paleæ inferiores" of former authors), while the term palea is confined to the special bractlet of the flower (formerly "palea superior"). The glumes again are either sterile (formerly "glumæ et flores steriles inferiores"), or fertile ("paleæ inferiores"), or imperfect ("flores abortivi superiores"). The number of flowers is to be determined from such glumes only as are provided with sexual organs.

TRIBE I. *POACEÆ, R. Br.—Lowest or single fertile glume placed above the lowest sterile glume of the spikelet: rhachis usually produced beyond the uppermost, often imperfect glumes.*

SUBTRIBE 1. *BAMBUSEÆ.—Spikelets inserted into the excavated axis. Sterile glumes usually more than two, fertile coriaceous. Stamens mostly* 6 *or more. Stigmas projecting from the flower at or below its summit. Embryo minute.*—Stem mostly woody.

1. PARIANA, *Aubl.*

Spikelets 1-flowered, ♂ pedicellate, dorsally compressed, whorled around the central sessile ♀: pedicels dilated, cohering. Sterile *glumes* of ♂ 2, obliquely lateral herbaceous, of ♀ membranaceous. Fertile *glume* and *palea* of ♀ indurated: stigmas 2, sessile.—Shrubby grasses; leaves *broad;* clusters of spikelets *in a contiguous spike.*

1. **P. sylvestris,** *Ns.* Tube of pedicels pubescent, chiefly at the base; ♂ sterile glumes little shorter than the flower, lanceolate-acuminate.—The leaves of the Brazilian species, as described by Nees, are "oblong, acuminate, acute at the base, scabrous at the margin:" our specimen is devoid of leaves, presenting scapes, rooting at the branched base,

covered almost to the summit with ventricose, acuminate sheaths: hence the determination of the species requires confirmation. Spike 2″ long; stamens 20–30.—HAB. S. Vincent!, *Guild.* (perhaps introduced); [Brazil].

2. GUADUA, *Kth.*

Spikelets cylindrical, many-flowered: glumes in a spiral order, more than 2 of the inferior ones sterile, several imperfect, *Palea* convex. *Stamens* 6. *Style* 3(–" 2 ")-partite.—Stem *arboreous; spikelets usually clustered, often branched from the lowest glumes:* internodes of the rhachis *broad.*

2. **G. latifolia,** *Kth.* Spikelets clustered, long, acuminate, curved; glumes striate, somewhat shining, ciliate, superior gradually longer and tapering.—*Humb. Pl. Equin. t.* 21. —Bambusa, *Humb.*—Stem " 24′ high, nodding at the summit;" leaves "linear-oblong, glabrous at the margin: sheaths with rigid bristles at the summit;" spikelets 2″–3″ long, 2½‴ diam.—HAB. Trinidad!, *Pd.;* [Venezuela].

3*. BAMBUSA, *Schreb.*

Spikelets laterally compressed, many-flowered: rhachis slender: glumes distichous, more than 2 of the inferior ones sterile, many, or several imperfect. *Palea* convex, ciliate. *Stamens* 6. *Caryopsis* lanceolate.—Stem *arboreous or shrubby;* spikelets *usually branched from the lowest glumes, often clustered.*

3*. **B. vulgaris,** *Schrad.! Branches striate;* leaves oblong-linear or lanceolate-acuminate, rounded at the base, scabrous at the margin and beneath: *sheath striate to the base;* spikelets oblong-lanceolate, acuminate; *glumes ciliate,* many-nerved, striate chiefly above, *superior* oblong-lanceolate, *abruptly passing into the inferior sterile ones,* several fertile; style long, pubescent, 3–2-fid or simple.—*Kth. Révis. t.* 73, 74. *Rupr. Bambus. f.* 47.—B. Thouarsii, *Kth.* B. arundinacea, *Ait.* (*non Roxb.*)—Stem " 20′–30′ high, unarmed;" largest leaves 1′ long, 2″ broad, those of the younger shoots 6″ long, 6‴–8‴ broad; spikelets densely-clustered-solitary, straw-coloured, 6‴–10‴ long.—HAB. Naturalized and cultivated in Jamaica!, *M'Nab,* S. Kitts!, Trinidad!, *Pd., Cr.,* but no document exists in our collections that any *Bambusa* is of American origin, as was believed of this species by former authors; [East Indies].

4*. **B. Sieberi,** *Gr. Branches* shining, *not striate;* leaves lanceolate-acuminate, rounded at the base, slightly scabrous at the margin and beneath: *sheath* striate above, *less striate below;* spikelets oblong-lanceolate, acuminate; *glumes* ciliate, many-nerved, striate near the summit, *superior* oblong-lanceolate, *gradually passing into the inferior sterile ones,* several fertile; style long, pubescent, 2-fid or simple.—B. arundinacea, *Sieb. Mart.* B. surinamensis, *Rupr. Bamb. f.* 49?—Perhaps a form of the preceding: the same occurs among *B. arundinacea* in J. D. Hooker's collection as a cultivated Bamboo of the East Indies. Leaves glaucescent, 6″ long, 8‴–9‴ broad; spikelets usually 2–3-partite, shining, straw-coloured, 5‴–8‴ long.—HAB. Naturalized and cultivated in Jamaica!, *Al., Dist.;* [Mexico!, Guiana!, Brazil!; East Indies!]

4. STREPTOGYNE, *P. B.*

Spikelets cylindrical, 2–1(–several) flowered, shortly pedicellate: rhachis produced beyond the flowers. Two inferior glumes sterile, unequal: the lowest interior, half as long as the second. *Flower* exserted, cartilaginous-coriaceous: its glume convolute, awned: awn terminal, straight. *Palea* enclosed, 2-dentate. *Stamens* " 3." *Stigmas* 3(–" 2 "), long exserted, spirally twisted, persistent. *Caryopsis* linear, cylindrical, with a longitudinal furrow. *Embryo* minute.—A stout, smooth, herbaceous (or "woody") grass; leaves *very long, linear;* spikelets *distant in a long, straight, spiciform raceme;* sterile glumes *persistent at the furrows of the puberulous axis;* caryopsis *deciduous with the flower: several often cohering by their twisted stigmas.*

5. **S. crinita,** *P. B.* 4′–6′ high: leaves as long; spike 2′, second glume 5‴–7‴,

flowers $10'''$–$12'''$, awn $8'''$–$10'''$ long; stigmas brown, setaceous, often exceeding the awn.—HAB. Trinidad !, *Cr.*, at S. Auns; [Southern United States, Guiana].

SUBTRIBE 2. *FESTUCEÆ.—Spikelets pedicellate: no excavation of the axis at the base of the pedicels.*

DIVISION I. *BROMEÆ.—Spikelets usually more than 1-flowered: the uppermost glumes often imperfect. Awn none or straight. Stigmas projecting laterally from the flower. Embryo minute.*

5. ARTHROSTYLIDIUM, *Rupr.*

Spikelets laterally compressed, many-flowered: the flowers distant along the jointed rhachis, with the joints at length seceding: glumes inferior 3–4 sterile, the fertile chartaceous-herbaceous, uppermost imperfect. *Lodiculæ* 3.—Bamboo-like trees *or* shrubs; spikelets *slender, usually distant in fascicled or terminal racemes.*

6. **A. pubescens,** *Rupr.* *Internodes scabrous;* leaves lanceolate-acuminate, rounded at the petioled base, puberulous above, scabrous at the margin: sheath striate, glabrescent, fimbriate at the summit; peduncled racemes or flowering branches densely fascicled: spikelets distant, shortly pedicellate or subsessile; *glumes* lanceolate-acuminate, *obsoletely nerved,* about twice as long as the internodes of the rhachis.—*Rupr. Bambus. f.* 14: *analyt.*—Leaves $4''$–$5''$ long, $4'''$–$9'''$ broad; sheath-bristles rusty, $2'''$ long, deciduous, superior glumes $4'''$ long; upper joints of the rhachis caducous.—HAB. Trinidad !, *Lockh.*, *Cr.*, on the summit of the mountains, Tocuche.

7. **A. excelsum,** *Gr.* (*n. sp.*) *Internodes smooth;* leaves lanceolate-acuminate or oblong-lanceolate, rounded at the petioled base, glabrescent, scabrous at the margin: sheath striate, roughish between the smooth streaks, fimbriate at the summit; peduncled racemes fascicled or terminal: spikelets distant, shortly pedicellate; *glumes* lanceolate-acuminate, *striate-nerved,* about twice as long as the internodes of the rhachis, lowest shorter.—Allied to the preceding and to *A. cubense,* Rupr. Stem $60'$–$80'$ high, $6'''$–$12'''$ diam. (*Pd.*); leaves $3''$–$5''$ long, $9'''$–$3'''$ broad; sheath-bristles tawny, $1'''$–$4'''$ long, deciduous; spikelets 6–3-flowered, $12'''$–$6'''$ long: superior glumes $4'''$ long.—HAB. Dominica !, *Imr.;* Trinidad, *Pd.*, *Cr.*, Las Cuevas hills, Tocuche.

6. CHUSQUEA, *Kth.*

Spikelets 1(–2)-flowered: the flower approximate to the sterile glumes: inferior sterile glumes 3–4 (rarely the 2 lowest abortive), all devoid of a palea, the fertile chartaceous-herbaceous. *Flower* of *Arthrostylidium.*—Scandent *or* trailing shrubs, rarely erect and bamboo-like; spikelets *paniculate or racemose.*

8. **C. abietifolia,** *Gr.* (*n. sp.*) Leafy branches fascicled; leaves short, linear-acuminate, mucronate-pointed, rigid, serrulate-scabrous at the thickened margin: sheath ciliate with the down at length deciduous; ligule none; racemes short, as long as the leaves, spreading, nearly simple: axis angular, scabrous; spikelets 5–10, lanceolate-acuminate: sterile glumes 3, two inferior about half as long as the third, narrow, the latter equalling the single flower, clasping, 5-nerved, acuminate; fertile glume linear-acuminate, puberulous, 3-nerved, a little shorter than the 2-keeled acuminate palea.—"A high climber" (*P. Br.: Arundo,* nr. 5.); internodes smooth, $3''$–$5''$ long, equalling the leafy branches, the older $2'''$ diam., those of the branches $1'''$–$3'''$($-6'''$) long; leaves $1''$–$2''$ long, $1\frac{1}{2}'''$–$2'''$ broad, subsessile, glaucescent: strong midrib prominent beneath, impressed above; pedicels $1'''$, spikelets $3'''$ long.—HAB. Jamaica !, *Wils.;* [West Indies !, *Sw.*].

7. ARUNDO, *L.*

Spikelets 2–6(–1)-flowered: the rhachis bearded with silky hairs: glumes membranaceous, the 2(–3) lowest only devoid of a palea. *Palea* short. *Stigmas* naked below, projecting from the flower at its middle or above it.—Herbaceous *or* arborescent canes, ligular border *ciliate;* spikelets *in a large panicle.*

Sect. 1. Phragmites, *Tr.*—*Glumes setaceous-acuminate, except the two lowest shorter ones: flowers hermaphrodite or the lowest* ♂. *Wool covering the internodes of the rhachis.*

9. **A. occidentalis,** *Sieb.!* Tall, herbaceous; *leaves linear-acuminate*, slightly scabrous at the margin: *ligular border shortly* and equally *ciliate;* panicle large, pale-rusty; spikelets 3–6-flowered; 2 *lowest glumes* unequal, bluntish, *minutely* 3-*dentate; lowest flower* monandrous: its glume equalling the wool, *more than twice as long as the inferior sterile glume*, or little exceeded by the hermaphrodite flowers.—*Sl. t.* 67.—Phragmites martinicensis, *Trin.* Remirea diffusa, *Sieb. Mart.* 31!—Habit of *A. altissima*, Benth. (Phr. gigantea, *Gay*), but leaves narrower, 5‴–8‴ broad at the base, and ligule not unequally fimbriate; structure of *A. Phragmites*, L., but 2 lowest glumes less pointed, wool a little shorter, ♂ flower 1-androus. Stem 10′–20′ high, panicle 2′, spikelets 6‴–8‴ long.—Hab. Jamaica!, *Pd.*, *Wils.*, in wet places, along rivers; Trinidad!; [French islands!; Mexico! to Brazil!].

Sect. 2. Gynerium, *Kth.*—*Glumes awnless, acuminate, delicate: flowers diœcious. Wool covering the lower part of the flowering glumes.*

10. **A. saccharoides,** *Gr.* Tall, arborescent; *leaves lanceolate-acuminate*, serrulate-scabrous at the margin; panicle large, very woolly, one-sided; *spikelets 2-flowered;* glumes in ♂ "lanceolate," in ♀ narrowly linear-acuminate, the 2 lowest unequal, the longest equalling the wool; ♂ flowers "2-androus."—*Humb. Pl. Equin. t.* 115.—Gynerium, *Humb.*—Stem 12′–16′ high, "2″–3″ thick at the base" (*Sl.*); leaves 3′–4′ long, 2″ broad; panicle 2′, spikelets and spreading wool 4‴ long.—Hab. Jamaica!, *Macf.*, in wet places; Antigua!, *Wullschl.;* Trinidad, *Cr.;* [Cuba! and Mexico! to Brazil!].

Sect. 3. Donax, *P. B.*—*Fertile glumes* 2-*dentate, awned between the teeth*, 2 *sterile subequal: flowers hermaphrodite.*

11*. **A. Donax,** *L.* Tall, arborescent; *leaves lanceolate-acuminate*, glabrous at the margin; panicle large, rusty-tawny; *spikelets* 3–2-*flowered, included within the* 2 *sterile glumes;* fertile glumes shortly awned, woolly below: awn erect, twice as long as the teeth; internodes of the rhachis woolly only at the summit.—*Reichenb. Ic. Germ. f.* 1731.—Stem 10′–20′ high; leaves 1″–1½″ broad at the base: sheath often black at the summit.—Hab. Jamaica!, *March*, Antigua!, *Wullschl.*, probably introduced; [Southern Europe! to tropical Asia!].

8. PLATONIA, *Kth.*

Spikelets 1-flowered: glumes coriaceous, 4 inferior-sterile, devoid of a palea. *Palea* convex, emarginate, coriaceous: its 2 nerves obsolete, "little distant." *Lodiculæ* 3.—Stout, herbaceous grasses; leaves *confined to the lower part of the stem:* ligule *produced;* panicle *virgate, somewhat contracted:* spikelets *ovate, numerous along its short branches.*

This genus, less related to *Chusquea* than to *Uniola* (and more distantly to *Phalaris*), is placed here on the authority of Kunth's figure of the stigmas, which apparently resemble those of *Arundo*.

12. **P. virgata,** *Gr.* (*n. sp.*) *Leaves lanceolate*, shortly acuminate, scabrous at the margin, *exceeded by the stem;* panicle dense, rigid: axis and branches sulcate, densely pubescent; spikelets shining-glabrous, often longer than their pedicel; glumes convex, mucronate, the 2 lowest lanceolate, the 2 upper sterile ones twice as long, ovate-lanceolate, the fertile ovate-oblong, little exceeding the palea.—Stem 6′ high, cylindrical, glabrous, 2‴ diam.; leaves 2½′–2′ long, 2″ broad above the middle, long-tapering at the base: sheath striate, glabrous: ligule ovate, blunt; panicle 1′ long, about 1″ diam.; branches thickish, spreading-erect, approximate, not whorled; spikelets tawny, laterally compressed, 2½‴ long, 3 upper glumes 1½‴ long, spreading.—Hab. Trinidad!, *Cr.*, at Tocuche.

9. ORTHOCLADA, *P. B.*

Spikelets 2–1-flowered: glumes herbaceous, 2 inferior sterile. *Palea* compressed, herbaceous, membranaceous at the margin: its 2 nerves approximate along the dorsal keel.

Stamens 2. *Caryopsis* laterally compressed, free.—Herbaceous, stoloniferous grasses; leaves *broad, petioled:* ligular border *ciliate;* panicle *fastigiate:* branches *long, filiform, often half-whorled;* spikelets *long-pedicellate, jointed at the base, elliptical-oblong.*

13. **O. laxa,** *P. B.* Leaves oblong-lanceolate, acuminate, glabrescent: petiole and sheath pubescent; panicle expanded in fruit; glumes lanceolate-acuminate, sterile shorter, unequal. —*Kth. Rév. t.* 71.—Stem 2′–3′ high, leaves 6″–3″ long, 12‴–8‴ broad: petiole 6‴–12‴ long; panicle 6″–12″ long: spikelets at the extremity of the branches, greenish, 3‴ long, often 1-flowered with a stipitate superior rudiment.—Hab. Trinidad !, *Cr.*, in woods, Fort George; [Mexico! to Brazil!].

10. UNIOLA, *L.*

Spikelets flat-compressed, 2–many-flowered: glumes herbaceous, keeled, 3–6 sterile. *Palea* compressed, 2-keeled: nerves distant. *Caryopsis* laterally compressed, free.—Herbaceous, stoloniferous grasses; ligule *ciliate;* spikelets *paniculate.*

Sect. 1. Chasmanthus, *Lk.—Spikelets small, ovate; keels of the palea wingless.*— Panicle virgate, somewhat contracted.

14. **U. virgata,** *Gr.* Rigid, stout; leaves convolute-filiform, flexuose, devoid of asperities; panicle erect, long-virgate: axis sulcate, pubescent: branches short, densely approximate, uppermost reduced; *spikelets shortly pedicellate,* 1*-sided,* 2*-flowered; glumes* 3-nerved, shortly mucronate or bluntish, puberulous or glabrate, 6–4 *sterile,* ovate-oblong, 2 lowest shorter.—*Sl. t.* 72. *f.* 1: bad.—Poa, *Poir.*—Habit of *Eragrostis cynosuroides.* Stem 4′ high, 1‴ thick, smooth, glabrous; leaves often 1′–1½′ long, rosular at its base (and at the inferior distant nodes); panicle 20″–5″, its simple branches usually 1″, spikelets 1‴ long, the latter straw-coloured, jointed at the base: sterile glumes placed right and left against the axis; stamens 3.—Hab. Jamaica!, *March;* [Cuba!, along the sandy seashore; Haiti].

Sect. 2. Euuniola.—*Spikelets large, smooth, ovate-oblong; keels of the palea winged, replicate.*—Panicle spreading.

15. **U. paniculata,** *L.* Stout, rigid; leaves involute at the scabrous margin; panicle dense: axis sulcate, pubescent; *spikelets shortly pedicellate, distichous-*1*-sided,* 8–16-*flowered; glumes* ovate-oblong, pointed, scabrous at the keel and margin, 4–6 *sterile,* fertile 3-androus: 3 nerves stronger.—*Catesb. Carol.* 1. *t.* 32.—4′–8′ high; leaves 2′–1′ long, 4‴–6‴ broad; spikelets 5‴–8‴ long, straw-coloured.—Hab. Bahamas!, *Swains.*, on the sandy seashore; [Southern United States!; Mexico! to Ecuador!].

11*. BROMUS, *L.*

Spikelets many-flowered: glumes herbaceous, 2 sterile, fertile mostly awned below the summit. *Stigmas* inserted below the hairy summit of the ovary. *Caryopsis* adhering to the palea.—Spikelets *usually large, paniculate.*

Sect. Schedonorus, *Fr.—Fertile glumes keeled,* 3*-dentate, sterile* 1*–*3*-nerved. Stigmas included, or projecting above the middle of the flower.*

16*. **B. sterilis,** *L.* Annual; stem glabrous; leaves flat-linear, pubescent: ligule produced; panicle spreading or nodding: inferior branches half-whorled; spikelets linear-lanceolate: fertile glumes 7-nerved, shorter than (or as long as) the straight awn, the latter inserted below its 2-partite summit; palea ciliate.—*Reichenb. Ic. Germ. f.* 1583.—Hab. Naturalized in Jamaica!, *Wils.*, in the mountains of S. Andrews, at 4000′ alt.; [Europe!].

12. ERAGROSTIS, *P. B.*

Spikelets many(–2)-flowered, laterally compressed, oblong or linear: 2 glumes sterile, fertile ones keeled, 3-nerved, awnless, deciduous: rhachis glabrous. *Palea* persistent on the rhachis or deciduous with its joints. *Stigmas* projecting near the base of the flower. *Caryopsis* free, devoid of a furrow.—Ligular *border, mostly ciliate*; spikelets paniculate.

Sect. 1. EUERAGROSTIS.—*Rhachis not jointed: palea persistent. Fertile glumes usually herbaceous.*

17. **E. prolifera,** *Steud. Perennial,* stoloniferous, *rigid, erect* (or inflexed at the base), glabrous; *leaves linear-setaceous, often convolute;* panicle expanded: branches geminate-solitary, little hairy at the base; spikelets lanceolate-linear, 4–12(–" 20 ")-flowered: fertile glumes ovate, pointed, 3-nerved: *palea* nearly the same length, *glabrous.*—Poa, *Sw.* !—$1\frac{1}{2}'$–$2'$ high, cæspitose, slender: the lowest leaves often half as long as the stem; panicle $4''$–$8''$, flowers $\frac{2}{3}'''$ long.—HAB. Antigua !, *Wullschl.*, S. Lucia, [Caribbean islands !, *Sw.*].

18. **E. glutinosa,** *Tr. Cæspitose,* little stoloniferous from a fibrous root, *rigid, erect,* glabrescent, *viscous below; leaves linear, setaceous-acuminate, flat;* panicle spreading: branches solitary, lowest geminate, scabrous, glabrous at the base; *spikelets lanceolate,* 4–12-flowered: *fertile glumes ovate, pointed,* 3-nerved, scabrous at the keel: palea little shorter, minutely ciliate.—*Sl. t.* 71. *f.* 2.—Poa, *Sw.*—$1'$–$2'$ high; leaves rigid, often reaching to the panicle, the latter $4''$–$6''$, flowers $\frac{1}{2}'''$ long.—HAB. Jamaica !, *Wullschl.*, in sandy savannahs of the southern districts.

19. **E. pilosa,** *P. B. Annual,* slender, *erect,* glabrous; leaves flat; panicle expanded: *lower branches half-whorled, bearded at the base;* spikelets lanceolate-linear, 3–12-flowered, about as long as the hair-like pedicels: fertile glumes ovate, somewhat pointed, with the 2 lateral nerves delicate: palea shorter, minutely ciliate.—*Reichenb. Ic. Germ. f.* 1659, 1660.—Poa, *L.*—Spikelets $\frac{1}{2}'''$ broad, often purplish; flowers about $\frac{1}{2}'''$ long.—HAB. S. Vincent !, *Guild.*; Trinidad !, *Sch.*; [temperate and tropical countries of the globe].

20. **E. bahiensis,** *Schrad. Annual, erect,* glabrous; *leaves* linear, setaceous-acuminate, often *involute;* panicle spreading (or contorted): branches solitary, glabrous or little hairy at the base; *spikelets oblong-linear,* 4–28-flowered, *shortly pedicellate: fertile glumes ovate, pointed,* 3-nerved: palea little shorter, minutely ciliate.—E. Brownei, *Ns.* Poa polymorpha, *R. Br.* (*non W.*).—Spikelets purplish or pale, $1'''$ broad; flowers $\frac{3}{4}'''$ long.—HAB. Jamaica !, *Wullschl.*; [all tropical countries and beyond their limits].

21. **E. poæoides,** *P. B. Annual, diffuse;* leaves flat; panicle spreading: branche solitary or geminate, glabrous or little hairy at the base; spikelets oblong-linear or lanceolate, 4–20-flowered: *fertile glumes* ovate or ovate-oblong, *bluntish,* 3-nerved: palea two-thirds as long, minutely ciliate.—*Reichenb. Ic. Germ. f.* 1661.—Poa Eragrostis, *L.* P. capillaris, *Sw.* (*non L.*), or P. tephrosanthos, *Schult.*: the West Indian form, with shorter spikelets and the fertile glumes ovate-oblong.—Spikelets almost $1'''$ broad; flowers $\frac{1}{2}'''$–$\frac{3}{4}'''$ long.—HAB. Jamaica !, *Wils.*, *Wullschl.*, *March*; [temperate and tropical countries of the globe].

22. **E. reptans,** *Ns. Low, ascending, cæspitose,* stoloniferous; leaves shortly linear-acuminate; panicle short, racemiform: branches solitary, simple, or lower divided from near the glabrous base; spikelets oblong-linear or linear, 10–40-flowered, longer than the pedicels; *fertile glumes ovate-lanceolate, membranaceous with 3 green nerves:* palea one-third to one-half as long, minutely ciliate.—$2''$–$5''$ high: spikelets $1'''$ broad; flowers $\frac{3}{4}'''$ long.—HAB. Trinidad !, *Cr.*; [United States ! to Buenos Ayres !].

Sect. 2. BRIZOMA, *Nutt.*—*Rhachis jointed, with the joints seceding. Fertile glumes membranaceous.*

23. **E. ciliaris,** *Lk. Annual, ascending,* glabrous; leaves linear-acuminate; *panicle contracted,* long; spikelets ovate-oblong or oblong, 6–8(–20)-flowered; *fertile glumes ovate-oblong, blunt,* with a dorsal and 2 marginal, distant, green nerves: *palea* nearly as long, *long-ciliate.*—*Jacq. Ic. Rar. t.* 304.—Poa, *L.* P. elegans, *Poir.*—Panicle $2''$–$6''$ long; spikelets $1'''$ broad; flowers $\frac{1}{3}'''$ long.—HAB. Jamaica !, all coll., in sandy soil; S. Kitts !, *Els.*, Antigua !, *Wullschl.*, Dominica !, *Imr.*, S. Vincent !, *Guild.*; Trinidad !, *Cr.*; [Cuba ! and Mexico ! to Brazil !; Galapagos !; East Indies !, Arabia, trop. Africa ! to the Cape !].

24. **E. conferta,** *Tr. Perennial,* stout, *branched the whole length,* glabrous; leaves linear-acuminate: ligule truncate; *panicles* long, *glomerate-virgate;* spikelets ovate or ovate-oblong, covering the panicle-branches to their base, 2–4(–8)-flowered; *fertile glumes lanceolate, acuminate,* with a dorsal and 2 marginal, distant, green nerves: *palea* a little

shorter, *minutely ciliate.*—Poa, *Ell.*—Several feet high; panicles 6″–12″ long, about 1″ diam.: spikelets numberless; flowers ½‴ long: marginal nerves disappearing about the middle.—Hab. Trinidad!, *Cr.*; [Southern United States to Brazil!]

Division II. *AGROSTIDEÆ.—Spikelets 1-flowered: fertile glumes not indurated, mostly membranaceous, 2 sterile. Stigmas projecting laterally from the flower. Embryo minute.*

13. SPOROBOLUS, *R. Br.*

Spikelets awnless: flower contiguous to the sterile glumes, glabrous at the base. *Pericarp* membranaceous (rarely coriaceous), seceding from the laterally compressed seed.—Ligular border *usually ciliate*; spikelets *paniculate.*

Vilfa, P. B., is, as Kunth has correctly observed, no distinct genus. In a Peru specimen of *S. pungens* (*Vilfa luxurians*, Steud.!), there is no difference in the pericarp, but that the naked, compressed, oval seed rests longer attached in the bottom of the flower.

* *Stem perennial, stoloniferous, often decumbent.*

25. **S. virginicus,** *Kth.* Perennial, branched; *leaves* short, spreading, distichous, convolute, filiform-acuminate, *devoid of asperities: sheath* sterile, terete, *little hairy* or glabrate *at the top* and ligular border; panicle narrow, short; sterile glumes usually unequal, the longer as long as the acute flower.—*Trin. Ic. t.* 48.—Agrostis, *L.* Vilfa, *P. B.*—Stolons leafy: flowering branches ascending; spikelets 1‴–1½‴ long.—Hab. Jamaica!, *Pd.*, on the sandy seashore; Antigua!, *Wullschl.*; Trinidad!, *Sieb.*, *Cr.*, in mangrove-swamps; [United States! to Brazil!, Pacific islands! to Australia!; trop. Africa to Madagascar! and the Cape!].

26. **S. litoralis,** *Kth.* Perennial; *leaves* long, involute, linear-setaceous, *scabrous at the margin: sheath* terete, *villous-bearded at the top* and ligular border; panicle narrow, enclosed at the base by the uppermost leaf; glumes acuminate, the sterile shorter than the flower.—Vilfa, *P. B.* V. aspera, *P. B.*—Stem 1′–4′, inferior leaves 6″–10″, spikelets 2‴ long.—Hab. Trinidad!, *Long*, in rocky places; [Southern Canada! to South America; trop. Africa].

** *Stem slender, erect; root fibrous.*

27. **S. domingensis,** *Kth.* Stem erect, compressed at the base; *leaves linear-acuminate, flat: sheath conduplicate-compressed, long-ciliate above* and at the ligular border; panicle spreading-erect, at length contracted; *glumes* acuminate, *the upper sterile equalling the flower, the lower half as long.*—*Trin. Ic. t.* 24: but palea pointed in our specimens.—Vilfa, *Tr.*—Spikelets about 1‴ long.—Hab. Jamaica!, *Al.*, *March*; [Haiti!].

28. **S. purpurascens,** *Hamilt.* Stem slender, cæspitose, cylindrical; *leaves narrowly linear*, usually *involute: sheath terete, striate, glabrescent:* ligular border shortly ciliate; panicle spreading-erect, at length contracted; *glumes* acuminate, *the upper sterile equalling the flower, the lower half as long;* seeds oval, rounded on the back.—*Trin. Ic. t.* 57.—Agrostis, *Sw.* Vilfa juncea, *Tr.* (*ex parte*).—Spikelets about 1‴ long.—Hab. Jamaica!, *Sw.*, *March*, in arid savannahs; Antigua!, *Wullschl.*; [Mexico to Brazil!].

29. **S. indicus,** *R. Br.* Erect; *leaves linear-acuminate: sheaths* minutely ciliate above (or glabrate), *lower conduplicate-subcompressed; panicle contracted,* long; *flower* acuminate, 2–4 *times as long as the* unequal, *sterile glumes;* seeds oval, flattish on the back.—*Sl. t.* 73. *f.* 1. *Trin. Ic. t.* 60.—Agrostis, *L.*, *Sw.* S. tenuissimus, *P. B.* (Agrostis, *Jacq.*): the form with convolute leaves and glabrate sheaths. S. elongatus, *R. Br.*: a form with the lowest panicle-branches distant.—Panicle 1′–3″, spikelets ⅔‴–1‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, along roadsides; Antigua!, *Wullschl.*; [Bermudas! and Florida! to Valdivia!; Galapagos! to Australia!, China! to East Indies!].

30. **S. Jacquemontii,** *Kth.* Stems erect, cæspitose, cylindrical; *leaves narrowly linear*, convolute: *sheath terete*, striate, minutely ciliate above; *panicle spreading-erect*, at length contracted: *flower acuminate*, 3–4 *times as long as the unequal striate glumes;* seeds oval, flattish on the back.—*Kth. Rév. t.* 127.—Allied to the preceding, spikelets as long.—Hab. Jamaica!, *Al.*, *March*, *Wils.*, a pasture grass; [Haiti, French islands!].

14. REYNAUDIA, *Kth.*

Spikelets awned from the 2-dentate summit of all glumes: flowers contiguous to the sterile glumes, glabrous at the base. *Palea* 1-nerved. *Stamens* 2.—A cæspitose grass; leaves *setaceous, ciliate about the ligular border:* nodes *villous;* panicle *short, subcontracted.*

31. **R. filiformis,** *Kth.—Kth. Rév. t.* 9.—1′ high, naked above; panicle 1″ long; awns of the sterile glumes much longer than those of the flowers.—Hab. Jamaica!, *Wullschl.,* Manchester; [Haiti].

Division III. *STIPACEÆ.—Character of* Agrostideæ, *but fertile glume indurated around the fruit.*

15. ARISTIDA, *L.*

Spikelets awned: awn 3-partite or 3-fid, terminating the fertile glume, the latter separated by an internode from the sterile pair, usually shortly bearded at the base. *Palea* abortive. *Caryopsis* free, cylindrical.—Spikelets *pedicellate.*

Sect. Chætaria, *P. B.—Awn persistent, naked.*

32. **A. stricta,** *Mich.* Leaves convolute-filiform: ligular border shortly ciliate; panicle narrow, interrupted: branches solitary or geminate; *sterile glumes acuminate,* the superior usually with a bluntish, mucronate summit, exceeding a little or equalling the flower; *awn-segments subequal, divergent, as long as their glume.—P. B. Agrostogr. t.* 8. *f.* 5: *analyt.* (palea wrongly drawn).—A. americana, *L. herb. sec. Munro* (*non Sw.*) A. dispersa, *Tr.* (A. bromoides, humilis, *and* coarctata, *Kth.*): a form with the spikelets usually coloured, and setaceous flowers. A. cognata, *Tr.:* a form with both sterile glumes acuminate to the summit. A. antillarum, *Pl. Carib.* A. Adscensionis, *Wickstr.* (*non Sw.*). A. maritima *and* subbiflora, *Steud.*—The West Indian forms are annual, but the allied species (*e.g. A. cærulescens,* Desf.) produce flowers also in the first year, and become perennial afterwards. Awns 4‴-6‴ long.—Hab. Antigua!, *Wullschl.;* [United States! to Chile].

33. **A. purpurascens,** *Poir.* Leaves convolute-filiform: ligular border shortly ciliate; panicle narrow, interrupted: branches solitary or geminate(-3); *sterile glumes setaceous-acuminate,* the superior equalling the flower; *awn-segments divergent: the middle about thrice as long as its glume,* the lateral less spreading and a little shorter.—A. Adscensionis, *Sw.* (*non L.*). A. Swartziana, *Steud.* A. cognata, *β, Trin.*—Root in our specimens perennial, middle awn 10‴-16‴, lateral 8‴-12‴ long.—Hab. Jamaica!, *Sw.,* in the sandy, southern savannahs; [United States!].

16. MILIUM, *L.*

Spikelets awnless, or with a simple, deciduous awn: the flower coriaceous or chartaceous, approximate to and included by the sterile glumes. *Palea* 2-nerved. *Caryopsis* free.—Spikelets *paniculate.*

Sect. Leptocoryphium, *Ns.—Spikelets awnless, jointed at the base. Fertile glume chartaceous, membranaceous at the summit.*

34. **M. lanatum,** *R. S.* Perennial erect; leaves convolute, hairy below and at the sheath or glabrescent; panicle erect: spikelets elliptical-lanceolate; *sterile glumes woolly-pilose,* 5(-7)-nerved.—*Kth. Rév. t.* 163.—Paspalum, *Kth.* Leptocoryphium, *Ns.*—2′-4′ high; spikelets 1⅓‴ long.—Hab. Trinidad!, *Cr.:* a form with the wool of the spikelets less spreading; [Mexico! to Uruguay!].

DIVISION IV. *ORYZEÆ.—Spikelets of* Agrostideæ, *but sterile glumes more than* 2, *often partly or all abortive, and palea furnished with a midrib.*—Spikelets jointed at the base, deciduous.

17. ORYZA, *L.*

Spikelets laterally flat-compressed; 2 sterile glumes developed, small, 2 abortive, fertile chartaceous, usually awned. *Stamens* 6.—Spikelets *paniculate.*

35. **O. latifolia,** *Desv.* Stout; leaves lanceolate-acuminate, scabrous: *ligule short; panicle spreading: inferior branches whorled; *fertile glume hispid*, awned.—*Kth. Rév. t.* 4.—*O. sativa,* L., has narrower leaves, a produced ligule, the panicle more contracted, and the down of the flower soft.—HAB. Trinidad!, *Cr.*, at Caroni: [Southern United States to Brazil].

18. LEERSIA, *Sw.*

Character of *Oryza*, but all sterile glumes abortive, and flowers awnless, 6–1-androus.

36. **L. hexandra,** *Sw.* Panicle spreading: *flowers elliptical-oblong, 6-androus,* hispid along the keel of the glume.—*Kth. Rév. t.* 1.—L. mexicana, *Kth.*, australis, *R. Br.* mauritanica, *Salzm.!*, contracta, *Ns.*—Leaves variable in breadth.—HAB. Jamaica (*Sw.*) in ditches; Dominica!, *Imr.;* Trinidad!, *Cr.*, in savannahs; [Florida! to Buenos Ayres!, Algeria! to the Cape!, East Indies!, to Australia].

37. **L. monandra,** *Sw.!* Panicle narrow, at length spreading, somewhat one-sided: branches distant: *flowers semiovate-roundish, pointed,* 1-androus, glabrous along the keel of the glume.—Spikelets pale, often imbricated, $\frac{1}{2}'''$ long.—HAB. Jamaica!, *Sw.*, in calcareous woods; [Cuba!; Texas!, Mexico].

19. LUZIOLA, *Juss.*

Spikelets monœcious in distinct panicles: terminal panicle ♂, axillary ♀. All sterile glumes abortive, fertile membranaceous, awnless. *Stamens* 6–11. "*Embryo* large."—Ligule *produced.*

38. **L. peruviana,** *Juss. Mey. Esseq. t.* 2. Stem creeping at the base or floating; ♂ flowers $2'''$, ♀ $1'''$ long.—HAB. Trinidad!, *Lockh.;* [Mexico to Brazil!].

DIVISION V. *PHALARIDEÆ.—Spikelets* 1-*flowered or unisexual* 1-*few-flowered. Stigmas projecting from the summit of the flower.*

20. OLYRA, *L.*

Spikelets 1-flowered, monœcious, ♂ devoid of sterile glumes; ♀ flower cartilaginous: its 2 sterile glumes herbaceous, often tailed at the summit. "*Caryopsis* free: embryo minute."—Leaves *usually broad, often oblique at the base*; spikelets *pedicellate, jointed at the base:* ♀ flower *included within the sterile glumes.*

* *Spikelets paniculate, inferior* ♂.

39. **O. latifolia,** *L.* Stout, branched below: nodes contracted; leaves ovate-oblong, ovate-lanceolate (or lanceolate), acuminate; panicle spreading: *all branches terminated by a single* ♀ *spikelet,* most ♂ below it; spikelets glabrous; ♂ glume tailed with a bristle, ♀ sterile glumes subulate-tailed: tail of the inferior longer: *flower* ellipsoidal, *glabrous,* shining-polished.—*Sl. t.* 64. *f.* 2. *Trin. Ic. t.* 346.—O. paniculata, *Sw.*—4′–15′ high, variable in the ♀ flower being ebony-white or more rarely black.

α. Leaf-sheaths more or less hairy: ligule short, ciliate.

β. *arundinacea,* Tr. Leaf-sheaths glabrous or glabrescent: ligule produced, glabrous.

HAB. Jamaica!, all coll. (*α, β*), common in woods; Antigua!, *Wullschl.* (*β*), Dominica!, *Imr.* (*β*); Trinidad!, *Cr.* (*β*); [Cuba! and Mexico! to Brazil!].

40. **O. semiovata,** *Tr.* Erect, flexuose at the base: inferior nodes prominulous and

constricted; leaves broad, gradually tapering-acuminate from the obliquely truncate, petioled base: sheath hairy or glabrate, shortly ciliate at the truncate ligule; panicle spreading: *inferior branches ♂, superior terminated by a single ♀ spikelet;* spikelets glabrous; ♂ glume tailed with a bristle, ♀ sterile glumes subulate-tailed: tail of the inferior longer: *flower* ellipsoidal, *hairy at the base and summit,* polished-white.—*Trin. Ic. t.* 347.—Several stems from the root, 2′ high; most leaves 2½″–1½″ broad, 8″–4″ long, several only 6‴–8‴ broad.—HAB. Trinidad!, *Pd.*, in wet savannahs; [Brazil!].

** *Racemes axillary, uppermost* ♂ (Lithachne, *P. Br.*).

41. **O. pauciflora,** *Sw.* Stems slender: nodes prominulous and constricted; leaves ovate-lanceolate, acuminate, often obliquely truncate at the base, uppermost remaining convolute; petiole hispidulous within: ligule truncate; *racemes* axillary, *much exceeded by the leaf,* uppermost ♂, inferior terminated by a single ♀ spikelet, ♂ below it; spikelets glabrous; ♂ glumes acuminate with a short bristle, ♀ sterile glumes tailed-acuminate: *flower obversely deltoid, glabrous,* shining-polished, white.—*P. B. Agrost. t.* 24. *f.* 2.—Stems aggregate, about 1′ high; leaves 2″–3″ long, 6‴–9‴ broad.—HAB. Jamaica!, *Pd., Mart., Wullschl.*, in arid, rocky woods, Manchester, Westmoreland; Antigua!, *Wullschl.*; [Cuba! New Granada!].

21. PHARUS, *P. Br.*

Spikelets 1-flowered, monœcious, geminate: one pedicellate ♂, the other sessile ♀. *Sterile glumes* 2, membranaceous, fertile in ♂ membranaceous, in ♀ coriaceous. *Stamens* 6. *Stigmas* 3. *Caryopsis* free: "embryo minute."—Leaves *petioled, broad,* 1-*nerved;* veins *straight, slightly diverging from the midrib; panicle spreading:* branches *spiciform;* spikelets *coloured:* ♀ *linear.*

42. **P. latifolius,** *L.* (*non Tr.*). *Leaves* obovate-oblong or elliptical-oblong, *cuspidate,* scabrous beneath; *fertile glume little longer than the sterile pair, villous only at the exserted summit.*—*Sl. t.* 73. *f.* 2. *Br. Jam. t.* 38. *f.* 3.—P. scabra, *Kth.* P. ovalifolius, *Ham.*—1½′–3′ high; leaves 6″–8″(–3″) long, 1½″–2½″ broad; ♂ spikelets 1½‴, ♀ 5‴–6‴ long.—HAB. Jamaica!, all coll., common in moist woods; Trinidad!, *Cr.*; [Florida!, Cuba! and Mexico! to Brazil!].

43. **P. glaber,** *Kth.* *Leaves* lanceolate-oblong, *acuminate; fertile glume twice or thrice as long as the sterile pair, villous to the base.*—*Tuss. Fl.* 2. *t.* 8. *Desc. Fl.* 6. *t.* 398: compound of this and the preceding.—P. lancifolius, *Ham.* P. lappulaceus, *Lam., Tuss.* P. latifolius, *Tr.* (*non L.*).—Stature and proportions of the preceding, but leaves 8‴–1½″ broad, glabrous, rarely scabrous beneath.—HAB. Jamaica!, *Wullschl.*, Manchester; Antigua!, *Wullschl.*; [Cuba!, French islands!; Venezuela!, Brazil].

22. ZEUGITES, *P. Br.*

Spikelets 2–4-flowered: lowest flower ♀, approximate to the pair of sterile glumes, the other ♂, distant. *Glumes* membranaceous-herbaceous, 3–9-nerved, sinuate at the truncate summit, not indurated. "*Embryo* minute."—Stems *branched and geniculated below;* leaves *petioled, broad and short:* sheath *open;* panicle *lax:* inferior branches 2–3-*nate;* ♀ flower *twice as long as the sterile glumes.*

44. **Z. americana,** *W.* Leaves ovate, pointed: petiole, 2-lobed ligule, and constricted nodes glabrous; inferior branches of the green panicle ternate; *fertile* ♀ *glume awned at the summit, as long as* or little longer than *the lower internode of the rhachis:* awn erect, half as long as or little shorter than the flower.—*Br. Jam. t.* 4. *f.* 3.—Apluda Zeugites, *L., Sw.*—1′–2′ high; leaves 2″–1″ long, 10‴–6‴ broad. Of the Continental congeners, *Z. mexicana*, Tr. (*Despretzia*, Kth.), has awnless spikelets, and the lowest ♂ flower less distant, and *Z. colorata*, Gr. (Venezuela, Fendl. coll. 2526), oblong-lanceolate leaves, petioles pubescent within at the summit, coloured spikelets and the ♀ flower very shortly mucronate.—HAB. Jamaica!, all coll., in the woods of the Blue Mountains, from 4000′ upwards to the summit.

DIVISION VI. *PAPPOPHOREÆ.—Spikelets with the lowest flower fertile, the superior usually abortive; third and following glumes multi-3-fid, with the lobes awned. Stigmas projecting from the summit of the flower.*

23. PAPPOPHORUM, *Schreb.*

Spikelets with several-1, distant, imperfect flowers above the fertile one: third and following glumes 9–13-awned.—Ligular border *ciliate;* panicle *contracted.*

45. **P. alopecuroides,** *V.* Perennial, stout, glabrous, ("or pubescent at the sheaths"); panicle long, cylindrical, pale: branches at length slightly loosened; spikelets with 2–3 superior rudiments: *sterile glumes* 1-*nerved, fertile* 13-*nerved,* imperfect ones 9–15-awned.—*Vahl, Symb. t.* 51. *Kth. Rév. t.* 131, 132.—P. macrostachyum *and* laguroideum, *Schrad.*—3′–4′ high; panicle 2″–12″ long.—HAB. Trinidad!, *Cr.*, La Tinta; [Brazil to Uruguay].

SUBTRIBE 3. *CHLORIDEÆ.—Spikelets sessile or shortly pedicellate: lowest glume placed against the axis. Sterile glumes 2, keeled-*1-*nerved, persistent: rhachis deciduous.*

24. BOUTELOUA, *Lag.*

Spikelets with 1(–2) fertile, shortly stipitate flowers below, and 1–several distant imperfect ones above them. *Sterile glumes* awnless, third and following ones 3–5(–7)-dentate: the teeth of all or chiefly the imperfect ones awned. *Stigmas* projecting laterally from the flower.—Spikes *racemose or solitary:* axis *produced beyond them.*

Sect. HETEROSTEGA, *Desv.—Spikes racemose: spikelets alternating along the edge of the flattish axis.*

46. **B. litigiosa,** *Lag.* Root fibrous; *stems low, geniculated-ascending;* leaves short, flat, or convolute, ciliate or glabrescent at the base: ligule shortly ciliate; spikes alternate: spikelets 6–10, distant; *sterile glumes lanceolate-acuminate, the longer equalling the internodes of the axis;* fertile flower single, bearded at the base, 3-toothed or shortly 3-awned: upper rudiment reduced to a long, 3-partite, exserted awn.—*Sw. Obs. t.* 2. *f.* 2.—Aristida americana, *Sw.* Heterostega juncifolia, *Desv.* (*non Kth.*). Eutriana bromoides, *Trin.* (*non Kth.*).—Leaves ½″–2″, sterile glumes 1½‴–2‴, spikelets (the awn included) 4‴ long.—HAB. Jamaica (*Sw.*), in the southern sandy districts; Antigua!, *Wullschl.;* [Venezuela!].

47. **B. elatior,** *Gr.* (*n. sp.*). Root fibrous; *stems slender, erect;* leaves narrowly linear, flat, ciliate, with long soft hairs near the base: ligule shortly ciliate; spikes alternate: spikelets 3–5, distant; *sterile glumes ovate, acuminate, the longer about half as long as the internode of the axis,* fertile flower single, bearded at the base, 3-toothed or shortly 3-awned: upper rudiment reduced to a long, 3-partite, exserted awn.—Allied to *B. aristidoides* (*Eutriana,* Kth. N. Gen. t. 695), which has narrower sterile glumes.—1½′–3′ high; inferior leaves 6″, sterile glumes 2‴, spikelets (the awn included) 4‴ long.—HAB. Antigua!, *Wullschl.*, at Grace bay, S. Johns.

25. LEPTOCHLOA, *P. B.*

Spikelets several–many-flowered, pedicellate in compound racemes. *Sterile glumes* awnless, fertile awnless or simply awned. *Stigmas* projecting laterally from the flower. *Embryo* "slender."—Annual, erect grasses; leaves flat; spikelets distichous-1-sided.

Dinebra, Jacq. (*L. arabica,* Kth.), is to be excluded, as by the stigmas projecting below the summit of the flower and sessile spikelets it approaches *Eleusine.*

48. **L. mucronata,** *Kth.* *Spikelets* 2–4-flowered, *awnless;* sterile glumes mucronate-acute, fertile bluntish, slightly ciliate: *rhachis glabrous.—Jacq. Eclog. Gram. t.* 4.—Eleusine, *Mich.* E. filiformis, *Pers.* L. filiformis *and* tenerrima, *R. S.* L. pellucidula,

Steud.—Spikes numerous, $1\frac{1}{2}''$–$4''$ long.—Hab. Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [United States! to Venezuela!; China! to East Indies!].

49. **L. virgata,** *P. B.* Spikelets 6–3-flowered; sterile *glumes* acuminate, *fertile* emarginate, ciliate, all or the inferior *awned: rhachis glabrous.*—*Sl. t.* 70. *f.* 2.—Cynosurus, *L.* L. brachiata *and* mutica, *Steud.*—Spikes numerous.

a. Spikes $3''$–$6''$ long; awns usually much, rarely little shorter than the flower, none in the superior.

β. gracilis, Ns. Spikes $1\frac{1}{2}''$–$2\frac{1}{2}''$ long; inferior awns as long as the flower, superior shorter or none.

γ. domingensis, Lk. Spikes $3''$–$5''$ long; all flowers awned: inferior awns as long as the flower.

Hab. Jamaica!, all coll. (*a*, *β*), in pastures; Antigua!, *Wullschl.* (*a*, *γ*), Dominica!, *Imr.* (*a*); Trinidad!, *Sch.*, *Cr.* (*γ*); [Texas!, Cuba! to Brazil!; Galapagos!].

50. **L. longa,** *Gr.* (*n. sp.*). Spikelets 3–4-flowered; sterile *glumes* acuminate, *fertile*, minutely 2-dentate, ciliate, the lowest *awned*, the following shorter, awnless: *rhachis bearded below the flowers.*—Habit of the preceding, but spikes $7''$–$8''$ long; and in structure approaching *L. Lindleyana*, Kth. Several feet high, glabrescent, but sheaths densely ciliate at the summit; leaves $8''$–$10''$ long, $5'''$–$6'''$ broad: ligule reduced; panicle $1'$ long: uppermost branches approximate: spikelets somewhat distant, compressed; sterile glumes $\frac{3}{4}'''$, lowest flower $1\frac{1}{2}'''$, its awn $1'''$ long: lateral nerves of the fertile glume approximate to the sericeous margin.—Hab. Trinidad!, *Cr.*

26. GYMNOPOGON, *P. B.*

Spikelets with a single perfect and a distant imperfect flower, sessile in racemed spikes, distantly alternate along the edge of the axis. Both flowers simply awned, or the superior reduced to an awn: sterile glumes narrow, acuminate. *Stigmas* projecting laterally from the flower. *Embryo* "small."—Leaves *short, tapering from a broader base, spreading.*

51. **G. filiformis,** *Gr.* (*n. sp.*). Root fibrous; *spikes* long, filiform, *flowering to the base: inferior spikelets gradually more distant* and imperfect; rhachis and *flowers glabrous* (except a few hairs at the margin): fertile linear, one-third as long as its awn, equalling or exceeded by the lower sterile glume, neutral 2-valved, much shorter than its exserted awn; stamens 2.—Stems cæspitose, aphyllous at the base: habit of *G. lævis*, Ns., but more slender, $2'$ high, glabrous; leaves distichous, $3''$–$1''$ long, $2'''$ broad, involute, shorter and distant in the numerous sterile shoots: ligular border ciliate; panicle $1'$ long; spikes alternate, $6''$, spikelets (the awns included) $6'''$ long; sterile glumes unequal, linear-acuminate, $1\frac{1}{2}'''$–$2'''$, fertile $1\frac{1}{2}'''$ long; the latter narrow, minutely 2-dentate, imperfect half as long: both awns little differing in length, and palea of the imperfect flower sometimes reduced to 2–1 much shorter awns.—Hab. Trinidad!, *Cr.*

27. CHLORIS, *Sw.*

Spikelets with 1(–2) perfect and 1–several imperfect distant flowers, in digitate (or solitary) spikes or spiciform racemes, distichous-one-sided. *Flowers* simply awned, rarely awnless. *Stigmas* projecting at or above the middle of the flower. *Embryo* large.—Spikes in the West Indian species *digitate, rarely contracted-racemose, and perfect flowers shortly bearded at the base.*

§ 1. *Spikelets distant, divergent.*

52. **C. cruciata,** *Sw.* Annual, leafy below; *leaves convolute-filiform*: ligule ciliate; spikes 4–2, digitate, divergent: spikelets shortly pedicellate: sterile glumes acuminate, the longer at length deciduous; *flowers lanceolate, beardless, awned,* the perfect shortly ciliate above, the imperfect single: both awns 3–5 times as long as their glume, the lower terminal between its 2-dentate summit.—*Sl. t.* 69. *f.* 1.—Agrostis, *L.* C. Humboldtiana, *Steud.*—$6''$–$15''$ high; spikes $8'''$–$1\frac{1}{2}''$ long; spikelets $1'''$ distant, flower $1\frac{1}{2}'''$ long.—Hab. Jamaica!, all coll., Pedro plains, Manchester, S. Elizabeth; [Cuba!].

§ 2. *Spikelets imbricate, parallel, one-sided.*

* *Perfect flower lanceolate, shortly ciliate, awned, imperfect narrow.*

53. **C. eleusinoides,** *Gr.* Annual, leafy below; *leaves narrowly linear, flat* or conduplicate, *bluntish:* ligule ciliate; *spikes* 3–6(–9), *digitate:* spikelets very shortly pedicellate, distant; sterile glumes acuminate; *flowers lanceolate, beardless, awned,* the perfect shortly ciliate above, the imperfect single: both awns 3–5 times as long as their glume, the lower inserted below its 2-dentate summit.—*Sl. t.* 68. *f.* 3.—Agrostis radiata, *L.*—Allied to *C. Beyrichiana,* Kth. (*pycnothrix,* Tr.), which has a longer awn and a much smaller imperfect flower. Stem inflexed at the base, ½′–1½′ high; leaves ½‴ broad, lowest 2″–4″ long, superior short: sheath flat-compressed; spikes 2″–1½″ long, with a villous tuft at the base; spikelets 1‴ distant: perfect flower 2‴, imperfect 1‴ long.—Hab. Jamaica!, *March;* Antigua!, *Wullschl.*

54. **C. radiata,** *Sw., Kth.* Annual, leafy below; *leaves broadly linear, flat, blunt:* ligule shortly ciliate; *spikes numerous, in a contracted raceme,* uppermost approximate: spikelets very shortly pedicellate; sterile glumes narrowly acuminate; *flowers lanceolate, beardless, awned,* the perfect dotted, shortly ciliate above, the imperfect single: both awns 3–6 times as long as their glume, the lower terminal between its 2-dentate summit.—*Kth. Rév. t.* 179. *Jacq. Eclog. Gram. t.* 10.—C. gracilis, *Dur.* (*non Kth.*) C. glaucescens, *Steud.!* C. virgata, *Sw. sec. Durand.* (*non Kth.*): a form with the longer sterile glume mucronate.—1′–2′ high; leaves 2‴ broad: sheath flat-compressed; spikes 3″–2″ long, lowest 9‴–4‴ distant; spikelets 1‴–⅓‴ distant: flower 1½‴ long.—Hab. Jamaica!, *Hartw., Pd., Wils.,* common in fields and on roadsides; Antigua!, *Wullschl.,* Dominica!, *Imr.,* in pastures; Trinidad!, *Pd., Lockh.,* in savannahs; [Cuba! to Brazil!].

** *Perfect flower elliptical, long-bearded along the margin, awned, imperfect dilated.*

55. **C. polydactyla,** *Sw.* Perennial, stout; leaves linear-acuminate, flat: ligule pilose; spikes numerous (–3), long, flexuose, digitate: spikelets subsessile; sterile glumes narrowly acuminate; *flowers* 2, *both half as long as their terminal awn, perfect elliptical, ciliate with a long-exserted beard, imperfect obovate.*—*Sl. t.* 65. *f.* 2. *Jacq. Eclog. Gram. t.* 9.—Andropogon, *L.*—2′–3′ high; leaves often 1′ long; spikes 4″–6″, flower 1‴ long.—Hab. Jamaica!, *Pd., March, Wullschl.,* on dry, grassy hills; [New Mexico! to Brazil!].

56. **C. barbata,** *Sw.* Annual, leafy below; leaves linear-acuminate, flat: ligule pilose; spikes numerous (–5), digitate: spikelets subsessile; sterile glumes mucronate; *flowers* 3, *all long-awned: perfect elliptical, long ciliate, one-third to one-fourth as long as its infraterminal awn,* 2 *imperfect* ones *cymbiform-ovoid, subtruncate,* shortly exserted.—*Trin. Ic. t.* 306.—½′–1½′ high; spikes often purplish, 1″–2″, perfect flower 1‴ long.—Hab. Jamaica!, *March;* [Brazil!; East Indies!].

57. **C. ciliata,** *Sw.* Annual, erect; leaves linear, flat: ligule glabrescent; spikes 4–6, digitate: spikelets subsessile; sterile glumes mucronate; *flowers* 3, 2 *inferior awned: perfect elliptical, long-ciliate* along the margin and keel, *as long as the infraterminal awn,* 2 *imperfect* ones *cymbiform-subglobose, truncate,* subincluded.—*Trin. Ic. t.* 307.—C. propinqua, *Steud.*—1′–2′ high; spikes purplish, incurved at the top, 1⅓″–2″, perfect flower 1‴ long.—Hab. Jamaica!, *Wils.,* in arid places; Antigua!, *Wullschl.;* [Cuba! to French islands!; Mexico!].

*** *Perfect flower ovate, awnless, imperfect dilated, less distant.*

58. **C. petraca,** *Thunb., Sw.* Leafy below; leaves flat: sheath flat-compressed; spikes 3–6, digitate: spikelets subsessile; *sterile glumes emarginate: the superior shortly awned; flowers beardless, awnless, perfect ovate,* shortly ciliate, mucronate-emarginate, *imperfect obovate-oblong, subtruncate,* included.—*Jacq. Eclog. Gram. t.* 11.—Eustachys, *Desv.* C. Swartzii et septentrionalis, *C. Müll.*—1′–2′ high; spikes often brown, 1½″–2″, perfect flower ½‴ long.—Hab. Jamaica!, *Pd.,* along the sea, on limestone, Hanover; [Bermudas!, Cuba!; Southern United States! to Uruguay!; Cape!].

28. DACTYLOCTENIUM, *W.*

Spikelets several-flowered, closely sessile on one side of a flattish axis in digitate spikes.

Glumes laterally compressed, upper sterile one awned, fertile mucronate. *Stigmas* projecting below the summit of the flowers. *Pericarp* utricular.—Creeping *or* diffuse annuals; leaves *flat, pilose below;* spikes 2–5, *short, thickish.*

59. **D. ægyptiacum,** *W.* Spikelets 2–4-flowered, densely imbricate below the naked point of the axis; sterile glumes scabrous on the keel: superior about as long as its recurved awn.—*Trin. Ic. t.* 69.—D. mucronatum, *W.*—Spikes 6‴–12‴ long.—HAB. Bahamas!, *Hjalm.;* Jamaica!, *Al.;* S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [Calabria! and Arabia! to the Cape!; China to East Indies! and Australia!; United States to Brazil!].

29. ELEUSINE, *G.*

Character of *Dactyloctenium*, but glumes awnless, bluntish-acuminate, the sterile membranaceous at the margin.—Annuals; leaves *flat;* spikes 2–5(–1).

60. **E. indica,** *G.* Stems compressed; spikes slender, greenish: axis narrow; flowers lanceolate.—*Trin. Ic. t.* 71.—Spikes usually 2″ long, one often distant from the fascicle.—HAB. Jamaica!, all coll.; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sch.*, *Cr.;* [Persia! to the Cape! and East Indies!; Canary islands!; Canada! to Buenos Ayres!; Pacific islands!].

30. CYNODON, *Rich.*

Character of *Eleusine*, but spikelets 1-flowered, and a "caryopsis."—Creeping, low perennials, leafy below with short leaves; ligule *ciliate;* spikes 2–6(–9).

61. **C. Dactylon,** *Pers.* Spikes divergent: axis narrow, 3-gonal; flower ovate, longer than the filiform rudiment and the sterile glumes.—*Sibth. Fl. Græc. t.* 60.—Panicum, *L.*—HAB. Bahamas; Jamaica!, *Macf.*, *Wils.;* Antigua!, *Wullschl.;* [tropical and warmer countries of the temperate zones throughout the globe].

TRIBE II. *PANICEÆ, R. Br.—Fertile glume placed above the second sterile glume of the spikelet; rhachis mostly not produced above it.*—Sterile glumes usually 3. Stigmas projecting below or at the summit of the flower. Embryo large.

SUBTRIBE I. *PASPALEÆ.—Fertile flower cartilaginous, leathery, or chartaceous: exterior sterile glumes herbaceous or membranaceous.*

31. THRASYA, *Kth.*

Spikelets biconvex, sessile, alternately uniserial along the midrib of the induplicate sheathing axis, in a simple one-sided spike. *Lowest glume* minute or abortive, second supporting the fertile flower: third ♂, divided into 2 distinct collateral leaflets, and furnished with a palea. *Fertile flowers* chartaceous, awnless.—Slender, cæspitose grasses; spike *slightly incurved:* axis *herbaceous:* series of spikelets *alternating with the fertile flowers placed against the axis or averted from it.*

62. **T. hirsuta,** *Ns.* Leaves pilose; *axis long ciliate*, twice as broad as the ovate-lanceolate exserted spikelets; lowest *glume* minute, *second exceeding half the ♂ flower;* both flowers 3-androus.—*Kth. Rév. t.* 102. *Trin. Ic. t.* 151.—Panicum thrasyoides, *Tr.*—1′–2′ high; spikes $1\frac{1}{2}''$–$2\frac{1}{2}''$ long.—HAB. Trinidad!, *Cr.*, in savannahs; [Brazil].

32. PASPALUM, *L.*

Spikelets flat on the ventral, convex on the dorsal side, imbricated on one side of the axis, in spiciform racemes or spikes. *Sterile glumes* 3, but lowest abortive or usually wholly wanting. *Flower* awnless, cartilaginous, flat convex.—Root *usually perennial;* spikelets *2–4-stichous, usually rounded.*

In those species in which a rudimentary lower glume is developed (*e.g.* in *P. decumbens* and often in *P. distichum*), no character is left to distinguish *Paspalum* from *Digitaria* but the habit and a slight difference in the fertile glume.

Sect. 1. EUPASPALUM.—*Spikelets devoid of an involucre.*

§ 1. *Spikelets 2-seriate. Palea placed against the axis.*

63. **P. compressum,** *Ns.!* Stem compressed, 1–2-node, often branched above; leaves long, flat, usually ciliate: sheath flat-compressed; *spikes* 2–3(–"5"), *two approximate:* axis 3-gonal, flat on the back, glabrous, narrower than the spikelets; *spikelets 2-seriate,* shortly pedicellate, *ovate-lanceolate with a bluntish point,* pubescent at the margin or glabrescent: exterior sterile glumes obsoletely 5-nerved, inferior 4-nerved near the margin.—*Trin. Ic. t.* 118.—Milium, *Sw.* P. platycaule, *Poir.* P. extenuatum, *Ns.* (*ex Pl. Spruce.*) P. guadalupense and macropodon, *Steud.* P. Michauxianum, *Kth.* (P. Digitaria, *Poir.*): a form with longer glabrous spikelets.—1′–1½′ high; leaves 6‴–4‴ broad, lowest shorter and narrower; spikes 4″–2″, spikelets 1‴ (or 2‴ long in *P. Michauxianum*).—HAB. Jamaica!, *March, Wils.*, common in pastures; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Cr.;* [Southern United States! to Buenos Ayres!].

§ 2. *Spikelets 2-seriate. Fertile convex glume placed against the axis.*

* *Sterile glumes 2- or enerved.*

64. **P. conjugatum,** *Berg.* Stoloniferous; leaves flat, ciliate: sheath compressed; *spikes* 2, divergent, *both at the summit of the stem* (or 2–3 with the third distant): axis linear, channelled on the back, glabrous, about as broad as the spikelets; *spikelets 2-seriate,* very shortly pedicellate, *roundish ovate, minutely pointed,* somewhat *villous at the margin:* sterile glumes 2-nerved within the margin.—*Trin. Ic. t.* 102.—P. ciliatum, *Lam.* P. longissimum, *Hochst.* P. Sieberianum and Renggeri, *Steud.!*—1′–2′ high; leaves 4‴–3‴ broad; spikes 4″–2″, spikelets ½‴ long.—HAB. Jamaica!, all coll., common; S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb.*, *Cr.;* [Louisiana!; Cuba! to Brazil!, Galapagos! to Australia!; trop. Africa!].

65. **P. pusillum,** *Vent.* Stoloniferous; stem low, inflexed; leaves short, flat, glabrescent, as long as the internodes; *spikes* 2–5, *most approximate:* axis linear, flat on the back, glabrous, narrower than the spikelets; *spikelets 2-seriate,* shortly pedicellate, *roundish, blunt, glabrous:* sterile glumes enerved within the margin.—*Trin. Ic. t.* 273.—P. serpens, *Pl. Spruc.*—3″–6″ high; leaves 6‴–12‴ long, 1‴–1½‴ broad; spikes 6‴–8‴ long: spikelets ⅓‴ diam.—HAB. Trinidad!, *Cr.;* [Portorico and Mexico to Brazil!].

** *Sterile glumes* 3–5-*nerved.*

66. **P. distichum,** *L.* Rhizome creeping; leaves convolute or conduplicate (rarely flat), usually glabrous (except at the base); *spikes* 2, *one terminal, the lateral approximate:* axis linear, flat on the back, glabrous, narrower than the spikelets; *spikelets 2-seriate,* shortly pedicellate, *ovate, pointed,* glabrous: sterile glumes 3–5-nerved.—Spikes 1″–2″, spikelets 1‴–1½‴ long.

α. Stem slender; leaves narrow, linear-acuminate, convolute: sheath biconvex.—*Trin. Ic. t.* 112.—P. litorale, *R. Br.* Digitaria paspaloides, *Dub.* (*non Mich.*)

β. vaginatum, Sw.! Stems creeping or *ascending from the leafy branched base;* leaves lanceolate-acuminate, conduplicate (or flat): sheath loose, compressed.—*Trin. Ic. t.* 120.

HAB. Jamaica!, all coll. (*α*, *β*), common in pastures and wet places; Antigua!, *Wullschl.* (*β*); Trinidad!, *Sieb.;* [Bermudas! and United States! to Buenos Ayres!, Chili! and Juan Fernandez!; naturalized in South-western France! (*α*); East Indies!, Australia].

67. **P. notatum,** *Flügg.* Rhizome creeping; stem simple, erect, or ascending; leaves lanceolate-acuminate, flat, superior shorter: sheath compressed; *spikes* 2, *one terminal the other approximate:* axis linear, flat on the back, glabrous, narrower than the spikelets; *spikelets 2-seriate, ovate-roundish or ovate, blunt,* glabrous: sterile glumes 3–5-nerved.—*Sw. Obs. t.* 2. *f.* 1. *Trin. Ic. t.* 114.—P. distichum, *Sw.* (*non L.:* for Linnæus's description is to be referred to the preceding allied species). P. Michauxianum, *Steud. in Pl. Philippi,* 410 (*non Kth.*).—Leaves 4‴ broad; spikes 2″–1″, spikelets 1‴–1½‴ long.—HAB. Antigua!, *Wullschl.;* Trinidad, *Cr.;* [Southern United States; Cuba! to Uruguay].

68. **P. filiforme,** *Sw.* (*non Flügg.*) Rhizome cæspitose; stem slender, erect, about as long as the long, filiform, glabrous leaves; *spikes single*(–"3"), slightly incurved: axis 3-gonal, convex on the back, glabrous, narrower than the spikelets; *spikelets 2-serial, ovate*

with a bluntish point, shortly pedicellate, glabrous: sterile glumes 3–5-nerved.—P. Swartzianum, *Flügg.*—3′–1′ high; spikes 3″–1″, spikelets 1‴–⅔‴ long.—Hab. Jamaica!, *Pd.*, *Al.*, *March*, *Wils.*, common in dry pastures; Trinidad!, *Pd.*, in savannahs.

69. **P. pulchellum,** *Kth.* Rhizome cæspitose; stem slender, erect; leaves narrow, pilose; *spikes* 2–3, *one terminal*, the other subapproximate: axis 3-gonal, flattish on the back, glabrous with a villous tuft at the base, narrower than the spikelets; *spikelets 2-serial, elliptical, blunt*, shortly pedicellate, glabrous: sterile glumes 3-nerved, lower (second) much shorter than the flower, caducous or abortive.—*Kth. N. Gen. t.* 26.—2′ high; leaves 1‴–½‴ broad; spikes 2″–1″, spikelets ¾‴–1‴ long: glume purplish.—Hab. Trinidad! *Lockh.*; [Venezuela, equat. Brazil!].

§ 3. *Spikelets* 4-*seriate in pairs, or* 2–3-*seriate by abortion of one of the pedicels in each pair. Fertile convex glumes of the exterior spikelets placed against the axis, of the interior ones turned more or less to the opposite side.*

* *Spike* 1, *terminal, the other (if present) inserted lower down.*

70. **P. decumbens,** *Sw.!* Stoloniferous; leaves flat, hairy: sheath loose: peduncles slender, from the upper axils of the branched stem; *spikes single*, incurved: axis filiform, glabrous (or pilose below); *spikelets* 4-seriate in pairs, pedicellate, *roundish*, minutely and bluntly mucronate or rounded, glabrescent: *sterile glumes* 3, two superior 3-nerved, lowest deltoid, minute (rarely abortive), *second shorter than the flower*, third furnished with a palea.—*Kth. Rév. t.* 16. *Trin. Ic. t.* 146.—Panicum, *R. S.* P. protensum, *Pl. Spruce!* An anomalous congener, but closely approaching the following species; 1′–2′ high, slender; leaves short, 4‴–2‴ broad; spikes 1″ long: spikelets ½‴–¾‴ diam.—Hab. Jamaica!, *Sw.*, in arid sandy hills of the western districts; Trinidad!, *Lockh.*, *Cr.*; [Venezuela! to Brazil!].

71. **P. setaceum,** *Mich.* Rhizome creeping; leaves flat, pilose; *spikes* 2–1(–3), slender, slightly incurved, *one terminal*, inferior usually distant: axis linear, flat on the back, glabrous, narrower than the spikelets; *spikelets* 4-seriate in pairs or 2–3-seriate, pedicellate, *roundish, blunt*, glabrous (rarely puberulous): *sterile glumes* 2, *equalling the flower*, obsoletely nerved.—*Trin. Ic. t.* 129, 130.—P. dasyphyllum, *Ell.* P. ciliatifolium, *Mich.* P. longifolium, *Steud.*—1′–2′ high; leaves 4″–2″ broad: spikes 2″(–4″) long: spikelets ½‴ diam.—Hab. Antigua!, *Wullschl.*; [United States! to Brazil!].

72. **P. cæspitosum,** *Flügg.* Rhizome creeping; leaves flat, glabrous, except at the base; *spikes* 1–4, slender, *one terminal, the other distant*: axis linear, flattish on the back, glabrous, narrower than the spikelets; *spikelets* 4(–3)-seriate in pairs, *elliptical, blunt*, pedicellate, glabrescent: sterile glumes 3–5-nerved.—*Trin. Ic. t.* 121.—P. dissectum, *Sw.* (*non L.*) P. rhizomatosum and coleopodum, *Steud.*—½″–1½″ long; leaves 2‴–1½‴ broad; spikes 1″–2″, spikelets ½‴–¾‴ broad.—Hab. Jamaica!, *Wullschl.*, *Al.*, on dry pastures; [Cuba! to Guiana!].

73. **P. fimbriatum,** *Kth.* Cæspitose, erect; leaves broadly flat, ciliate; *spikes* 2–7, *one terminal, the other distant*: axis 3-gonal, flat on the back, glabrescent (except at the base), narrower than the spikelets; *spikelets* 4-seriate, *ovate, blunt, mucronate*, pedicellate: *sterile glumes* 3-nerved, both or inferior (the second) *crested with a broad, lacerate*, marginal *wing*.—*Kth. Nov. Gen. t.* 28.—1′–1½′ high; leaves 4‴–8‴ broad, inferior long; spikes 1″–2″, spikelets (without the wing) 1‴ long: wing ⅓‴–½‴ broad, rusty.—Hab. Antigua!, *Wullschl.*; [New Granada, Brazil].

74. **P. glabrum,** *Poir.* Cæspitose, erect; leaves long, flat, glabrous; *spikes filiform*, 3–10, slightly nodding, *one terminal, the other distant*, often one-sided: axis linear, convex on the back, glabrous (except at the base), narrower than the spikelets; *spikelets* 4–3-seriate with the pairs somewhat distant, *obovate-oblong* or elliptical-oblong, *blunt*, puberulous or glabrescent, unequally pedicellate: sterile glumes 3-nerved.—*Trin. Ic. t.* 126.—P. ischnocaulon, *Tr.* P. milioides, *Poir.*: a form with 6″–8″ long, numerous spikes.—3′ high; leaves about 2‴ broad; spikes 6″–2″(–8″), spikelets 1‴ long, the latter greenish.—Hab. Antigua!, *Wullschl.*; [Haiti to S. Thomas].

75. **P. plicatulum,** *Mich.* Cæspitose, stout, erect; inferior leaves long; *spikes* 3–12, *one terminal, the other distant*: axis 3-gonal, flattish on the back, glabrous (except at the

base), narrower than the spikelets; *spikelets* 4–3-seriate, *oval* or obovate-roundish, *blunt*, pedicellate, glabrescent: *sterile glumes* 5-nerved, *superior* (the third) *at length flat within the tumid margin.*—*Trin. Ic. t.* 140.—P. undulatum, *Poir.*—Nearly allied to *P. scrobiculatum, L.*, of the old world, the spikes of which have a broader axis. 2′–3′ high, variable in the down; leaves 4‴–1‴ broad; spikes 1″–2″, spikelets 1‴–1½‴ long, the latter becoming brown.—Hab. Jamaica!, all coll.; [United States to Uruguay!].

76. **P. virgatum,** *L.* Cæspitose, stout, erect; leaves long, flat, glabrous, scabrous at the margin; *spikes numerous, one terminal,* about as long as the rest, *the other* spreading, *subapproximate,* rarely geminate: axis 3-gonal, convex or flattish on the back, scabrous at the margin or ciliate (rarely glabrate), narrower than or as broad as the spikelets; *spikelets* 4-seriate, *obovate or roundish-elliptical, blunt, mucronate,* pedicellate, pubescent at the margin or glabrous: *sterile glumes* 5-*nerved,* superior slightly loosened at the margin.—*Sl. t.* 69. *f.* 2.—Andropogon fasciculatus, *L. Sp. ed.* ii. (*ex Ic. Sl.*)—Very variable, 3″–5″ high; leaves 8‴–3‴ broad; spikes 3″–5″, spikelets 1‴ long.

α. Axis nearly as broad as the spikelets; glumes becoming brown; leaves narrow.

β. stramineum. Axis half as broad as the spikelets: glumes straw-coloured or at length purplish-tawny, usually glabrous.—*Trin. Ic. t.* 131.—Leaves broad or narrow.

Hab. Jamaica!, *Al.*, *March,* common in savannahs! (*α, β*); Antigua!, *Wullschl.* (*β*); Trinidad!, *Sieb. Tr.* 11; [Cuba! and Mexico! to Uruguay!].

** *Spikes numerous, the superior gradually shorter.*

77. **P. paniculatum,** *L.* Cæspitose, erect; leaves long, broad, hairy or glabrescent, undulate; *spikes numerous,* slender, *superior shorter,* approximate, inferior often 2–3-nate, most curved-spreading: *axis* 3-gonal, convex or flattish on the back, *narrower than the small spikelets; spikelets* 4–3-seriate, *roundish or obovate-roundish, blunt, puberulous* on the convex side, unequally pedicellate: sterile glumes 3-nerved.—*Sl. t.* 72. *f.* 2. *Trin. Ic. t.* 127.—P. strictum, *Pers.* P. polystachyon, *Salzm.*—2′–3′ high; leaves 8‴–12‴ broad; inferior spikes 3″ long, spikelets ½‴ diam., tinged with brown.—Hab. Jamaica!, all coll.; Trinidad!, *Sch.*; [Cuba! and California! to Rio Grande do Sul!; Galapagos!].

78. **P. densum,** *Poir.* Stout, erect; leaves long, glabrous; *spikes very numerous,* thickish, densely approximate, spreading, *superior gradually shorter,* most 2–3-nate along the sulcate common axis: special axis 3-gonal, flat on the back, ciliate with long hairs (or "glabrate"), about as broad as the small spikelets; *spikelets* 4-seriate, *roundish, rounded with a minute blunt point,* unequally pedicellate, *glabrous:* sterile glumes 3-nerved.—*Trin. Ic. t.* 122.—4′–5′ high; leaves 6‴ broad; inferior spikes 2″(–5″), uppermost ½‴ long; spikelets 1‴ diam., straw-coloured.—Hab. S. Vincent!, *Guild.*; [Cuba! and Mexico! to Brazil!].

Sect. 2. Cabrera, *Lag.*—*Spikelets involucrate by a bundle of yellow bristles.*

79. **P. pulchrum,** *W.* Cæspitose, erect; leaves hairy or ciliate at the base; *spikes* 2–8, 1(–2)-terminal, *most approximate:* axis 3-gonal, flat on the back, as broad as the spikelets, ciliate: involucral bristles yellowish, spreading, longer than the spikelets: *spikelets* 2-seriate, subsessile, *obovate-oblong,* bluntish: sterile glumes 3–5-nerved, glabrous or puberulous along the nerves.—*Kth. Rév. t.* 164. *Trin. Ic. t.* 99, 101.—P. canescens, *Ns.!*: the hairy form. P. ramosissimum, *Ns.!*: a form branched at the base. P. chrysostachyum, *Schred.*: the form with glabrous glumes. P. aureum, *Pl. Spruce.* P. chrysodactylon. *Tr.*—2′–3′ high; leaves somewhat rigid, 4‴–2‴ broad; spikes 4″–2″(–1″), spikelets ½‴, bristles 1‴ long.—Hab. Trinidad!, *Cr.*; [Guiana!, Brazil!].

33. DIGITARIA, *Scop.*

Character of *Paspalum,* but fertile glume membranaceous at the margin, and broadly overlapping the palea. *Lowest sterile glume* often appearing, but minute. *Caryopsis* concave-convex, rarely flat-convex.—Root *mostly annual;* spiciform racemes *approximate or fascicled:* spikelets *narrow, in pairs, one pedicellate, the other subsessile:* fertile glume *placed against the axis.*

* *Spikes suberect.*

78. **D. filiformis,** *Mühl.* (*non Koel.*). Slender, hairy at the base; leaves narrow;

spikes 2–8, suberect: *axis filiform; spikelets elliptical oblong*, pointed; lowest glume wanting, second little shorter than the flower.—*Trin. Ic. t.* 148.—Panicum, L. Paspalum, *Flügg.* Milium paniceum, *Sw.*—½′–2′ high; spikes 1″–2″, spikelets ½‴ long; flower purple; caryopsis flat-convex.—HAB. Jamaica (*Sw.*), in dry, sandy soil; [United States! to Brazil!].

** *Spikes spreading.*

79. **D. marginata,** *Lk.* Softly pilose below; spikes 2–8, spreading: axis 3-winged, about as broad as the spikelets; *spikelets lanceolate* or oblong-lanceolate, pointed; lowest *glume* minute or abortive, *second exceeding half the flower, third* 5-*nerved*, pubescent at the margin: *its lateral nerves converging.*—*Trin. Ic. t.* 93.—Milium digitatum, *Sw.!* (Paspalum, *Kth.*; D. jamaicensis, *Spreng.*): a form with glabrous leaves, and the lowest glume often abortive; what Swartz says of serrate leaves, refers to their margin sometimes undulate, as occurs often in *Paniceæ*. *D. eriogona,* Lk. (*Panicum*, Schrad.!): a form with the leaves and their sheaths softly pilose. *D. ægyptiaca*, Parlat. (non Retz). *Panicum glaucescens*, Ns. Distinguished from *D. sanguinalis*, Scop., by narrow, usually greenish spikelets, and a longer second glume; spikelets 1‴ long.—HAB. Jamaica!, all coll., in dry pastures; S. Kitts!, *Els.*, Antigua!, *Wullschl.*; [southern United States! to Chile! and Brazil!; Galapagos! to Australia!; East Indies!; Arabia! to trop. Africa!].

80. **D. setigera,** *Rth.* Softly pilose below, spikes numerous (–5–2), spreading: axis narrowly 3-winged, usually bearing a long hair below several pedicels, little narrower than or as broad as the spikelets; *spikelets lanceolate* or oblong-lanceolate, pointed; lowest *glume* minute, *second half as long as the flower, third* 5-*nerved*, pubescent at the margin: *all its nerves equidistant, nearly parallel.*—D. horizontalis, *W.* (Panicum, *Mey.*, *Ns.!*). D. setosa, *Desv.* (Panicum Hamiltonii, *Kth.*).—Spikelets greenish, 1‴ long.—HAB. Jamaica!, *Wils.*; Antigua!, *Wullschl.*, Dominica!, *Imr.*; Trinidad!, *Cr.*; [all tropical countries; Cape].

34. ERIOCHLOA, *Kth.*

Character of *Paspalum*, but fertile glume exceeded by the sterile pair and terminated with an included, pubescent awn or tuft of hairs. *Spikelets* hairy, pointed, pedicellate: pedicel abruptly thickened at the joint below the flower.—Spiciform racemes *subsessile, usually alternate along the common axis.*

81. **E. punctata,** *Hamilt.* Perennial; stem erect, pubescent above: nodes pubescent; leaves and sheaths glabrous; racemes erect, alternate, bearing many spikelets: axis pubescent; *spikelets ovate-lanceolate, acuminate*, sericeous-hairy, inferior geminate, superior single; superior sterile glume devoid of a palea, fertile awned: *awn one-third as long as its glume.*—*Trin. Ic. t.* 153.—Milium, *L.* Helopus, *Trin.* Paspalum, *Trin.*—1′–3′ high; spikelets 2‴ long.—HAB. Jamaica (*Sw.*): in wet pastures; Antigua!, *Wullschl.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Arkansas! to Buenos Ayres!].

35. STENOTAPHRUM, *Tr.*

Spikelets inserted into the excavations of the axis. *Lowest glume* minute, exterior: second supporting the fertile flower (or abortive): third of firmer texture, usually ♂. *Fertile flower* coriaceous, awnless.—Long-creeping, stoloniferous grasses; leaves *distichous, flat:* sheath *spreading;* spike *simple or inflorescence contracted:* branches *short, jointed.*

82. **S. americanum,** *Schrk.* Leaves linear, blunt: sheath compressed: *spike one-sided:* axis compressed, broader than the spikelets, convex-flattish on both sides: *branches appressed*, sunk into its 2-seriate excavations: spikelets 1–2, one at the base of the branch, the other (if present) at its summit.—Schrk. H. Monac. t. 98. Rottbœllia dimidiata, *Sw.* R. stolonifera, *Poir.* Diastemanthe platystachys, *Steud.*—Spikelets oblong-lanceolate, pointed, 2‴ long.—HAB. Jamaica!, *Al. March*; S. Kitts!, Antigua!, *Wullschl.*, Dominica!, *Imr.*; Trinidad!, *Cr.*; [Bermudas!; Mexico! to Buenos Ayres!; Sandwich islands!].

36. ORTHOPOGON, *R. Br.*

Sterile glumes 3, herbaceous, awned, the 2 superior gradually larger and shorter-awned (or

not awned). *Fertile flower* chartaceous, awnless.—Ascending, broad-leaved grasses, *radicant at the base ;* spike *compound, often interrupted :* spikelets *one-sided.*

83. **O. hirtellus,** *R. Br.* Leaves lanceolate, acuminate, undulate, puberulous : *sheath pilose ; spikes distant ;* common axis pubescent : *spikelets* 3–10, *pubescent ;* lowest awn smooth, bluntish, 3–5 times as long as its glume ; third glume shortly awned, furnished with a palea.—Panicum, *L.*, *Sw.* (Oplismenus, *R. S.*). P. velutinum, *Mey.*—Leaves $1\frac{1}{2}''$–$2\frac{1}{2}''$ long, $4'''$–$6'''$ broad ; lowest awn $4'''$–$5'''$ long.—Hab. Jamaica !, *March,* in woods ; Trinidad !, *Sch. ;* [Guiana].

84. **O. loliaceus,** *Spreng.* Leaves oblong-lanceolate or lanceolate, acuminate, glabrous (or glabrescent) : *sheath glabrous, ciliate (rarely sparingly pilose) ; spikes about as long as their internodes,* usually oblong : common axis nearly glabrous, special hispid : *spikelets* fascicled, subdistant, *glabrous* or glabrescent ; lowest awn smooth, bluntish, 3–4 times as long as its glume ; third glume shortly awned, furnished with a palea.—Panicum, *Lam.* Oplismenus, *P. B.* O. cubensis, *Spreng.*—Leaves $2''$–$4''$ long, $5'''$–$8'''$ broad ; spikes $5'''$–$10'''$, lowest awn $4'''$–$8'''$ long.—Hab. Dominica !, *Imr. ;* Trinidad !, *Cr. ;* [Cuba ! and Mexico ! to Brazil !].

85. **O. setarius,** *Spreng.* Leaves ovate-lanceolate or lanceolate, shortly acuminate, glabrescent : *sheath ciliate ; spikes short, very distant :* common axis nearly glabrous, special hispidulous : *spikelets* 3–7, *glabrescent with ciliate glumes,* approximate ; lowest awn smooth, bluntish, much longer than its glume ; third glume shortly awned, furnished with a palea.—Panicum, *Lam.* Oplismenus, *P. B.*—Habit exactly of *O. undulatifolius,* Spreng., which has pilose sheaths and undulate leaves. Leaves $1''$–$2''$ long, $3'''$–$6'''$ broad ; spikes $2'''$–$4'''$, lowest glume $3'''$–$6'''$ long.—Hab. Jamaica !, *Al.*, *Wils. ;* Antigua !, *Wullschl*, Dominica !, *Imr. ;* [Cuba ! and Mexico ! to Brazil].

37. PANICUM, *L.*

Sterile glumes 3, herbaceous or membranaceous, awnless, lowest clasping, mostly smaller, superior usually furnished with a palea. *Fertile flower* at length cartilaginous, usually awnless, flat-convex or ovoid.

Sect. 1. Brachiaria, *Tr.*—*Fertile flower flat-convex. Spikelets ellipsoidal, pointed, 2–4-seriate on one side of the axis, in terminal and lateral, subsessile, alternate spikes or spiciform racemes.*

§ 1. *Fertile flower compressed from the back, awnless* (Paspaloidea, *Ns.*).

86. **P. paspaloides,** *Pers.* Perennial, glabrous ; leaves linear-acuminate : ligule shortly ciliate ; lateral spikes about as long as their internodes, erect ; *spikelets 2-seriate, very shortly pedicellate, glabrous ;* lowest glume subtruncate, one-third as long as, second little shorter than, the fertile flower, the latter ovate, pointed, dotted.—*Trin. Ic. t.* 168.—P. truncatum, *Tr.* P. affine, *Ns.*—$1'$–$2'$ high ; spikes $12'''$–$6'''$ long, 10–20, inferior longer ; spikelets $1'''$ long.—Hab. Antigua !, *Wullschl. ;* [Haiti ! and Mexico to Brazil ; Egypt ! to trop. Africa and East Indies].

§ 2. *Fertile flower terminated by a scabrous mucro. Embryo larger than half the length of the albumen* (Echinochloa, *P. B.*).

87. **P. colonum,** *L.* Annual ; leaves linear-acuminate, glabrous : *ligule none ; lateral spikes about as long as their internodes ; spikelets* 4(–6)*-seriate, very shortly pedicellate, scabrous-pubescent ;* sterile glumes mucronate, lowest short, 2 superior equalling or shortly exceeding the fertile flower, the latter elliptical, nearly half-terete, minutely mucronate.—*Trin. Ic. t.* 160.—P. pseudocolonum, *Rth. :* a form with bristles at the base of the spikes. P. Daltoni, *Parlat. ! :* the same. P. zonale, *Guss. :* a form with purple-zonate leaves. P. brizoides, *Sw. ?* (*non L.*). P. fluitans, *Mey. Esseq.* (*non Retz*). P. Petiveri, *Kotsch. Nub.* (*non Trin.*).—$1'$–$1\frac{1}{2}'$ high ; spikes $6'''$–$12'''$ long, 4–20, inferior longer ; spikelets $1'''$ long.—Hab. Jamaica !, all coll. ; Antigua !, *Wullschl.*, Dominica !, *Imr. ;* Trinidad !, *Al. ;* [common in all tropical countries, ranging to Texas !, Florida !, Spain !, southern Italy !, Egypt ! and Arabia !].

88. **P. Crus-galli,** *L.* Annual, erect; leaves linear-acuminate, glabrous: *ligule none; lateral spikes exceeding their internodes; spikelets 4–6-seriate,* shortly *pedicellate, hispidulous;* sterile glumes mucronate, the third usually awned, lowest short, the 2 superior equalling or shortly exceeding the fertile flower, the latter elliptical, half-terete, smooth, mucronate.—*Trin. Ic. t.* 161.—Spikes 1″–3″, spikelets 2‴–1‴ long. The West Indian forms are, *P. echinatum,* W. (Trin. t. 162): spikelets large, very long-awned; and *P. sabulicolum,* Ns. (Trin. t. 163): spikelets awned, small.—HAB. Trinidad!, *Cr.;* [all temperate and most tropical countries].

89. **P. spectabile,** *Ns.* Stout; *nodes bearded; leaves long; lanceolate-acuminate,* glabrescent: *ligule long-ciliate;* spikes numerous, superior exceeding their internodes: axis bearing bristles; *spikelets* 4–6-*seriate, shortly pedicellate, hispid-ciliate;* lowest glume broadly clasping, pointed, half as long as the flower, second mucronate, third awned; fertile flower ovate, pointed and mucronate, smooth.—*Trin. Ic. t.* 166.—P. aristatum, *Macf.!* Oplismenus jamaicensis, *Kth.*—HAB. Jamaica!, *Macf.;* Antigua!, *Wullschl.;* [Tabasco!, Guiana!, Brazil!].

Sect. 2. VIRGARIA, *Tr. emend.—Fertile flower flat-convex. Spikelets ellipsoidal (or lanceolate), pointed, paniculate: pedicels mostly angular, often geminate.*

§ 1. *Axis of the panicle once or twice divided: branches scattered (rarely fascicled): pedicels short, mostly shorter than the spikelet, irregularly or strictly one-sided.*

* *Fertile flower compressed from the back, transversely wrinkled with dots.*

90. **P. prostratum,** *Lam.* Creeping, radicant at the base; leaves short, lanceolate-acuminate or ovate-lanceolate, clasping at the ciliate base; *panicle short, simply branched;* spikelets glabrous, erect, one-sided, one in the pair subsessile; *lowest glume short, subtruncate,* 2 superior exceeding the fertile flower, second 7-, third 5-nerved; *fertile flower* elliptical, compressed from the back, dotted, *minutely mucronate.—Trin. Ic. t.* 184, 185.—P. cæspitosum, *Sw.* P. procumbens, Ns. P. umbrosum, *Retz.* P. insularum, *Steud.*—Leaves 1″–2″, spikes 6‴–12‴ long, the latter usually green, spreading-erect; spikelets 1‴ long: rhachis often with bristles.—HAB. Jamaica (*Sw.*), in dry pastures; Antigua!, *Wullschl.;* [Louisiana! and Cuba! to Brazil!; Egypt! and Arabia! to East Indies! and Australia!].

91. **P. grossarium,** *L., Sw.* Ascending, cæspitose; leaves lanceolate-linear, acuminate, ciliate at the base; *panicle spreading: branches simple, few;* spikelets glabrous ("or puberulous"), erect, irregularly one-sided: *lowest glume deltoid, pointed, one-third as long as the spikelet,* 2 superior exceeding the fertile flower, both 5-nerved; *fertile flower elliptical, bluntish,* compressed from the back, dotted.—*Trin. Ic. t.* 169.—P. adspersum, *Tr.*—1′–2′ high; leaves 2″–4″ long, 4‴ broad; spikes 2″, spikelets about $1\frac{1}{2}$‴ long, the latter cuspidate, green.—HAB. Jamaica! (*Linn.*), *March;* Saba!, *Forsström,* Antigua!, *Wullschl.;* [Haiti, S. Barthélemy!].

** *Fertile flower nearly half-terete, transversely wrinkled with dots.*

92. **P. carthaginense,** *Sw.* Cæspitose, branched, prostrate or ascending, *pubescent;* leaves lanceolate-acuminate; *panicle short, narrow: branches few, simple:* axis villose-pilose; spikelets puberulous or glabrous, erect, irregularly one-sided; *lowest glume* broadly ovate, pointed, 3–5-nerved, *half as long as the spikelets,* 2 superior equalling the fertile flower, second 7-, third 5-nerved: *nerves reticulated by transverse veins; fertile flower* ellipsoidal, *pointed,* dotted, half-terete.—*P. multiculmum,* Anders.!: the form with glabrous spikelets.—Stems 6″–12″ long; leaves 1″–2″ long, 3‴–2‴ broad; panicle 1″–2″, spikelets $1\frac{1}{2}$‴ long, the latter greenish, purple above.—HAB. Jamaica!, *Al.;* [Mexico to New Granada; Galapagos!].

93. **P. fuscum,** *Sw.* Annual, erect; *leaves* linear- or lanceolate-acuminate, *glabrous:* sheath pilose or glabrescent; *panicle spreading, simply branched:* axis hairy; spikelets glabrous, erect, irregularly one-sided; *lowest glume* deltoid, pointed, 3-nerved, *one-third to half as long as the spikelet,* 2 superior little exceeding the fertile flower, both 7-, or the third 5–7-nerved: *nerves reticulated by transverse veins; fertile flower* roundish-ellipsoidal, *bluntish,* dotted, half-terete.—*Trin. Ic. t.* 206.—1′–3′ high; leaves 3″–10″, spikelets 1‴ long, the latter brown or dark-purple.

α. Leaves 3'''–5''' broad: sheath often glabrescent; panicle 3''–4'' long: branches scattered.—P. reticulatum, *Pl. Carib.*

β. fasciculatum, Sw. Stouter; leaves 6'''–11''' broad; panicle 6''–3'' long: lower branches half-whorled.—P. paludicola, *Steud.*: the Guadeloupe-plant (*non Ns.*).

HAB. Jamaica!, all coll., *α*, along watercourses, *β*, in pastures; Trinidad!, *Cr.* (*β*); [Cuba! and Mexico! to Brazil!; Texas!; Galapagos!].

94. **P. flavescens,** *Sw.* Annual, erect; *leaves* lanceolate-linear or elliptical-lanceolate, acuminate, *costate*, pilose or glabrate; *panicle spreading: branches simple*, scattered: axis bearing bristles and hairs; spikelets glabrous, erect, irregularly one-sided; *lowest glume* broadly ovate, bluntish, 3-nerved, *one-quarter to one-third as long as the spikelet, second* 7–5-nerved, *two-thirds as long as the fertile flower, third equalling it,* 5-nerved: *nerves not connected; fertile flower ellipsoidal, pointed,* slightly compressed from the back, dotted.—P. paractænioides, Tr.—Allied to *P. palmifolium*, 1½'–4' high; leaves 3''–8'' long, 4'''–14''' broad: the broader ones plaited: sheath softly pilose; panicle 4''–8'', spikelets 1''' long, the latter yellowish-green or with a purple tinge.—HAB. Jamaica!, *Wullschl.*, *Pd.*, *March*, S. Andrews, Manchester, in arid places, Bluefield mountains in Westmoreland; Antigua!, *Wullschl.*

95. **P. palmifolium,** *Poir.* Stout; *leaves* long, elliptical-lanceolate, narrowly acuminate, *plaited-costate*, delicately pilose beneath; *panicle long, dense: branches spreading-erect, long, inferior compound, racemiform:* axis slightly scabrous, bearing bristles; spikelets glabrous, erect, irregularly one-sided; *lowest glume* ovate-oblong, with bluntish point, 5–3-nerved, *half as long as the spikelet, second* 7–5-nerved, *as long as the fertile flower,* third exceeding it, 5-nerved; *fertile flower ellipsoidal, pointed,* slightly compressed from the back, dotted.—*P. plicatum haitiense*, Kth.: probably confounded with the East Indian *P. plicatum*, Lam., Roxb. (Jacq. Eclog. Gr. t. 1. Trin. Ic. t. 223), in which the lowest glume is much shorter and ovate-rounded. Leaves 12''–16'' long, 1''–2'' broad; panicle 1½', inferior branches 6'', secondary ones 6''' long, the latter appressed; spikelets green, 1½''' long, exceeded by the scattered bristles.—HAB. Jamaica!, *March;* [Haiti (*ex syn. Kth.*)].

96. **P. sulcatum,** *Aubl.* Stout; *leaves* long, elliptical-lanceolate, acuminate, *plaited-costate*, glabrescent; *panicle long, dense: branches short, spreading, inferior compound, racemiform:* axis scabrous, bearing bristles; spikelets glabrous, erect, one-sided; *lowest glume ovate-roundish, blunt,* 5-3-nerved, *one-third as long as the spikelet, second* 7–5-nerved, *half as long as the fertile flower,* third equalling it, 5-nerved; *fertile flower ellipsoidal,* pointed, half-terete, slightly dotted.—Setaria, Bert.—4'–6' high; leaves and panicle of the preceding, but branches shorter, the largest usually 2'' long, bristles more numerous, and spikelets 1''' long.—HAB. Trinidad!, *Sch.;* [Mexico! to Brazil!].

97. **P. molle,** *Sw.* Perennial, stout, ascending; *nodes villous;* leaves long, linear-acuminate, glabrescent; panicle lax: branches mostly simple, somewhat distant (or a few fascicled): spikelets glabrous, one-sided, spreading; *lowest glume deltoid, small, one-fourth as long as the spikelet,* 1-*nerved,* 2 *superior* equalling the fertile flower: 5-*nerved: nerves not connected; fertile flower roundish-ellipsoidal, bluntish,* half-terete, slightly dotted.—*Trin. Ic. t.* 318.—P. barbinode, *Tr.* P. guadalupense, *Steud.* P. Meyerianum, *Ns.* (*in Pl. Spruce*). P. sarmentosum, *Roxb.* P. punctulatum, *Arn.*—6'–2' high, pubescent or glabrate; panicle greenish, 6''–8'' long: branches spreading, about 2'', spikelets 1''' long.—HAB. Jamaica!, naturalized as an excellent pasture-grass, *Wils.;* Trinidad!, *Cr.;* [Cuba! to Brazil!; trop. Africa! to the Cape; East Indies!].

*** *Fertile flower smooth.*

98. **P. oryzoides,** *Sw.!* Perennial, stout, ascending, glabrous (or glabrescent); *leaves cordate-lanceolate,* acuminate; *panicle lax: branches simple,* distant: *spikelets large,* glabrous, irregularly one-sided, *erect; glumes exserted with a minute, bluntish appendage* at the pointed summit, *lowest* ovate, 3-nerved, *exceeding half the spikelet,* 2 superior equalling the fertile flower, 5-nerved; *fertile flower elliptical-oblong,* smooth, half-terete.—*Kth. Rév. t.* 28.—P. zizanioides, *Kth.*—5'–2' high; leaves 3''–6'' long, 5'''–10''' broad, panicle 6''–8'' long, green: branches 3''–4'' long; spikelets distant, 3''' long.—HAB. Jamaica!, *Sw.*, *Al.*, *March*, *Wullschl.*, in mountain-woods; [Guiana!, Brazil!].

99. **P. stenodes,** *Gr.* Annual, cæspitose, erect, glabrous: *leaves setaceous-linear,* in-

volute; *panicle narrow: branches* few, distant, suberect, *inferior compound, racemiform: spikelets* minute, glabrous, irregularly one-sided, *erect; lowest glume one-third to half as long as the spikelet*, 3-nerved, 2 superior 5–7-nerved, equalling the fertile flower, or the second a little shorter; *fertile flower ellipsoidal, pointed*, smooth, half-terete.—P. hians, *Pl. Spruce* (*non Ell.*).—1′–1½′ high; panicle 1″–2″, spikelets ½‴ long, the latter greenish, pointed.—HAB. Jamaica!, *Pd.*, in savannahs, Manchester; Trinidad!, *Pd.*, in sandy swamps; [Cuba!; Brazil!].

100. **P. diffusum,** *Sw.* Annual, erect: *nodes villous;* leaves linear-acuminate, glabrous; *panicle lax, spreading: branches* scattered, *inferior sparingly compound, racemiform:* pedicels often longer than the spikelet: *spikelets* glabrous, irregularly one-sided, *erect; lowest glume half as long as the spikelet, 5-nerved, second* 9–13-*nerved*, a little shorter than the 7–9-nerved third one, both exceeding the *ellipsoidal, pointed*, half-terete, smooth *fertile flower.—Trin. Ic. t.* 263.—P. hirsutum, *V.!* (*non Sw.*).—1′–2′ high, anomalous in § 1 by its often filiform pedicels, which in smaller specimens however are short; leaves rigid: sheath glabrous or pilose; panicle 3″–6″, spikelets 1‴ long, the latter pale-green.—HAB. Antigua!, *Wullschl.;* [Cuba!, S. Croix!].

101. **P. laxum,** *Sw.! Stem compressed*, ascending from a creeping base: *nodes glabrous;* leaves linear-acuminate, glabrous; *panicle spreading: inferior branches compound, racemiform: spikelets* minute, glabrous, irregularly one-sided, *erect; lowest glume one-third to half as long as the spikelet*, 1–3-*nerved*, 2 superior equalling the fertile flower, second 5-, third 3-nerved; *fertile flower elliptical-oblong, pointed*, smooth, half-terete.—*Kth. Rév. t.* 110. *Trin. Ic. t.* 215.—P. tenuiculmum, *Mey.* P. diandrum, *Kth.:* stamens 2–3. P. ramuliflorum, *Hochst.!*—2′–3′ high; panicle greenish or tinged with purple, 4″–15″ long; spikelets ½‴ long, acute, or with a bluntish point.—HAB. Jamaica!, *Sw.*, *March*, on wet pastures; Antigua!, *Wullschl.*, Dominica!, *Imr.;* [Cuba! to Brazil!].

102. **P. potamium,** *Trin. Stem angular below*, ascending from a creeping base: *nodes villous;* leaves linear-acuminate, rounded at the base, glabrous; *panicle spreading*, deltoid: *branches compound, with spreading, racemiform branchlets:* axis bearing a few bristles: *spikelets* glabrous, strictly one-sided, *spreading or superior deflexed; lowest glume one-half to one-third as long as the spikelet*, 3-nerved, 2 superior little exceeding the fertile flower, second 3–5-, third 3-nerved; *fertile flower elliptical-lanceolate, pointed*, smooth, half-terete.—P. hydrophilum, *Tr.* (*non Schult.*) P. polygonatum, *Sieb. Trin.* (*non Schrad.*). P. tenuiculmum, *Ns. in Pl. Seem.!* (*non Mey.*).—1′–2′ high; panicle pale-green, 3″–4″ diam.: inferior secondary branches 1″, spikelets ⅔‴ long,—HAB. Trinidad!, *Sieb.*, *Sch.;* [Mexico! to Brazil!].

103. **P. distichum,** *Lam.* Stoloniferous, erect or ascending, glabrous or pilose at the nodes and sheaths; leaves lanceolate- or linear-acuminate, rounded at the base; *panicle spreading*, tapering at the summit: *branches simple*, numerous, uppermost shorter, approximate; *spikelets* ovate, glabrous, *deflexed; lowest glume half as long as the spikelets*, 3–5-nerved, 2 superior equal, 5-nerved, as long as the *ovate, pointed*, smooth, half-terete *fertile flower.—Trin. Ic. t.* 213.—1′–5′ high; panicle 4″–12″, its inferior subdistant branches 1″–1½″, green spikelets ½‴ long.

α. Nodes glabrous; leaves 8‴–4‴ broad; spikelets exceeded by the scattered hairs of the axis.

β. pilosum, Sw. Nodes pilose-bearded; leaves 4‴–5‴ broad; panicle shorter: branches more distant: axis pilose with scattered hairs.

γ. lancifolium. Stout; nodes densely villous; leaves 8‴–10‴ broad; panicle long: axis of its branches glabrous.

HAB. Jamaica!, *Al.*, *Wils.*, common in pastures (*β*); Dominica!, *Imr.* (*α*), S. Vincent!, *Guild.;* Trinidad!, *Sch.*, *Cr.* (*α*, *γ*); [Mexico to Brazil!; Pacific islands].

104. **P. frondescens,** *Mey.* Ascending from a creeping base, glabrescent; leaves striate, obliquely oblong-lanceolate or ovate-lanceolate, acuminate: sheath ciliate; *panicle* spreading, *tapering above: branches simple, much longer than their internodes*, superior gradually shorter, densely approximate: *spikelets* ovate-lanceolate, glabrous, *deflexed-spreading; lowest glume one-third to one-fourth as long as the spikelet*, 3-nerved, *second exceeded by the third*, 5–7-nerved, *third twice as long as the oblong-lanceolate, pointed*, smooth, half-terete *fertile flower.—Kth. Rév. t.* 108.—P. stoloniferum, *var.* majus, *Tr.*—

1′–3′ high; leaves 1½‴–½‴ broad, petioled; panicle 7″–2″, its inferior branches 1″–½″, spikelets 1½‴–1¼‴ long, the latter green.—HAB. S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Guiana!, Brazil!].

105. **P. stoloniferum,** *Poir.* Creeping, diffuse, *softly hairy*; leaves short, striate, oblong-lanceolate, pointed; *panicle short,* spreading: *branches simple, about twice as long as their internodes: spikelets* ovate-lanceolate, glabrous, one-sided, *deflexed*; *lowest glume short,* 3-nerved, 2 *superior subequal, almost twice as long as the elliptical-lanceolate, pointed,* smooth, half-terete fertile flower.—*Kth. Rév. t.* 22. *Trin. Ic. t.* 171.—P. ctenodes, *Tr.*—Stems 6‴ long; leaves 8‴ long, 2‴ broad, usually equal at the subpetioled, rounded base; panicle 1″–2″, its branches 4‴–6‴, spikelets 1‴ long, the latter yellowish-green.—HAB. Trinidad!, *Cr.*, common in woods; [Guiana, Brazil].

§ 2. *Panicle very loose, twice or more divided: inferior branches whorled, or half-whorled: pedicels erect.*

106*. **P. maximum,** *Jacq.* Perennial, stout: nodes ("usually") villous; leaves linear-acuminate or lanceolate-linear, ciliate at the base and ligule; panicle large: lower branches whorled, racemiform, usually bearing a few bristles: *pedicels* unequal, *filiform: spikelets elliptical-oblong,* glabrous; lowest glume short, ovate-rounded, subincurved, 2 superior little exceeding the fertile flower, 3–7-nerved; third ♂ with a palea; *fertile flower transversely wrinkled, half-terete.*—*Jacq. Ic. Rar. t.* 13.—P. jumentorum, *Pers.* P. trichocondylum, *Steud.* P. fasciculatum, *Pl. Carib.* (*non Sw.*)—5′–10′ high; panicle 1′–1½′, spikelets 1½‴ long.—HAB. Naturalized and cultivated in Jamaica!, *Al.*; Antigua!, *Wullschl.*; S. Vincent, *Guild.*; Trinidad! *Lk.*; [Cuba! and Mexico! to Buenos Ayres!, once introduced from trop. Africa].

107. **P. elephantipes,** *Ns.* Perennial, stout: nodes glabrous; leaves broadly linear-acuminate, ciliate at the base and ligule, delicately hairy on the upper side, glabrous beneath and at the sheath; panicle large: lower branches whorled, all diffuse: *pedicels* unequal, *angular*: spikelets *oblong-lanceolate,* glabrous; lowest *glume* short, ovate-deltoid, 1-nerved, 2 superior little exceeding the fertile flower, 7–5-nerved, *third devoid of a palea; fertile flowers smooth, compressed from the back,* acuminate.—P. fistulosum, *Hochst.*—Stem ½″ thick below, constricted at the brown nodes; leaves long, 4‴–8‴ broad; panicle pale green, 1′–1½′, spikelets 1½‴–2‴ long.—HAB. Jamaica!, *Pd.*, in ditches, in the great morass of Westmoreland; [Guiana!, Brazil!].

108. **P. Rudgei,** *R. S., Ns.* *Woody below,* rigid: nodes sericeous; leaves linear-acuminate: sheath hispid with the bristles inserted into tubercles; *panicles* very diffuse, *terminal and axillary* subapproximate, subsessile: lowest branches fascicled: *pedicels* long, slender, *angular*: spikelets ellipsoidal, mucronate, *lowest glume ovate-lanceolate,* 5–9-nerved, *exceeding half the spikelet,* 2 superior exceeding the fertile flower, 7–9-nerved, *third ♂ with a palea; fertile flower smooth,* elliptical, bluntish, *compressed from the back.*—*Rudg. Guian. t.* 29.—P. scoparium, *Rudg.* (*non Mich.*) P. cayennense, *var.* majus, *Tr.* *P. cayennense,* Lam. (P. cayennense, *var.* minus) is a very different, annual grass, belonging to Miliaria.—4′–6′ high, 1½‴–2‴ thick, variable in down; inferior leaves 3‴–5‴ broad; inflorescence 1′–3′ long: the axillary panicles often exceeded by their supporting leaf; spikelets 1‴ long.—HAB. Trinidad!, *Cr.*, in savannahs; [Guiana!, Brazil!].

109. **P. hirsutum,** *Sw.!* *Woody below,* erect: nodes sericeous; leaves long, lanceolate-linear, glabrous, ciliate at the ligule: sheath hispid with spreading-erect bristles; panicle large: *lower branches half-whorled,* secondary racemiform: *pedicels* unequal, *angular: spikelets, ellipsoidal,* glabrous; *lowest glume* ovate, *pointed,* ½–⅓ as long as the spikelet, 5-*nerved,* 2 superior little exceeding the fertile flower, second 11-, *third* 9-nerved, the *latter with a palea,* but neutral; *fertile flowers smooth,* ellipsoidal, somewhat pointed, slightly compressed from the back.—10′–12′ (–4′) high; lower internodes 8″–10″ long, 6‴–8‴ thick; leaves 2′ long, 1½″–1″ broad; panicle 1′–2′ spikelets 1‴–¾‴ long.—HAB. Jamaica!, *Sw.*; Trinidad!, *Cr.*, Lagoon of Cedros; [Haiti].

110. **P. altissimum,** *Mey.* *Woody,* "arborescent:" nodes glabrous: leaves long, lanceolate-linear, acuminate, glabrous: ligule lacerate: sheath hispid with the deciduous bristles inserted into persistent tubercles; panicle large: *all branches whorled,* simple, racemiform, naked below: *pedicels* short, distant, irregularly one-sided, *angular: spikelets*

ellipsoidal, glabrous; *lowest glume* short, *blunt*, 3–5-*nerved*, 2 superior equalling the fertile flowers, 7–9-nerved, *third with a palea*, but neutral; *fertile flower smooth*, ellipsoidally pointed, half-terete.—P. elatius, *Kth.*—6′–30′ high, 4‴–6‴ thick: leaves 1′–1¼′ long, 12‴–15‴ broad; panicle 1′–1½′, its branches 6‴–8‴, spikelets 1½‴ long.—HAB. Trinidad!, *Cr.*, in savannahs; [Mexico! to Brazil].

Sect. 3. ICHNANTHUS, *P. B.*—*Character of Virgaria, but fertile flowers with two marginal keels or ligular appendages at the base, and exterior glumes less unequal.*—Leaves ovate, or lanceolate.

* *Ligular appendages of the flower wanting.*

111. **P. alsinoides,** *Gr.* (*n. sp.*) Creeping, delicate, softly pilose (or glabrescent); leaves ovate, acuminate, oblique at the sessile base; *panicle few-branched:* branches short, simple: pedicels short: spikelets oblong-lanceolate, acuminate, erect; *lowest glume two-thirds as long as the spikelets,* 3-nerved, 2 superior 5-nerved, exceeding the fertile flower, *third neutral, with a palea; fertile flower* smooth, *elliptical-lanceolate,* bluntish, compressed from the back: *basilar furrows keeled:* keels decurrent to the callus below the flowers.—Nearly allied to the following, and probably not distinguished from it by Swartz, but habit of *P. stoloniferum*, down soft, and proportions of the glumes different. Stems usually 3″–5″ long, ascending from branched, rooting stolons; leaves 8‴–12‴ long, 3‴–4‴ broad, hairy on both sides (or glabrescent); panicle 6‴–12‴ long, often interrupted below: spikelets 1½‴–2‴ long, glabrescent, or hairy at the second glume, the latter equalling or exceeding the third, simply acuminate or with an awn-like point.—HAB. Jamaica!, *March;* St. Kitts!; Trinidad!, *Pd.*, in dense shady woods; [Venezuela!, Ecuador!].

112. **P. nemorosum,** *Sw.* Creeping-diffuse, hairy, or glabrescent; leaves ovate, or ovate-lanceolate, pointed, oblique at the half-clasping base; *panicle* narrow, *few-branched:* branches short, simple: pedicels short: spikelets elliptical-oblong, erect: 3 *sterile glumes subequal,* or slightly unequal, exceeding the fertile flowers, lowest 3-nerved, 2 superior 5-nerved, *third ♂ with a palea; fertile flower* smooth, *oblong,* bluntish, nearly half-terete, 2-*keeled at the base:* keels decurrent to the callus below the flower.—*Trin. Ic. t.* 210.—1′–2′ long; leaves 1″–2″ long, 4‴–8‴ broad: hairs spreading from tubercles; panicle 1″–1½″, spikelets 2‴–1½‴ long.—HAB. Jamaica (*Sw.*); [Haiti; Venezuela!].

113. **P. pallens,** *Sw.* Ascending, branched, *glabrous* (except at the ciliate sheaths); leaves ovate-lanceolate, acuminate, oblique at the ciliate, sessile base; *panicle spreading:* branches simple, or inferior compound, racemiform: pedicels angular: spikelets elliptical-oblong, erect; *lowest glume three-fourths to one-half as long as the spikelets,* 3–5-nerved, 2 superior 5–7-nerved, exceeding the fertile flowers, third usually ♂, with a palea; *fertile flowers* smooth, oblong, blunt, nearly half-terete: *basilar furrows keeled: keels* decurrent to the narrow callus below the flowers.—*Trin. Ic. t.* 211.—Variable, 1′–3′ high; leaves 2″–5″ long, 6‴–18‴ broad; panicle 2″–6″, spikelets 1½‴–2½‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, *Wullschl.*, common in woods; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! and Mexico! to Buenos Ayres!; Australia!; East Indies!].

** *Fertile flower with two ligular appendages at the base.*

114. **P. nemorale,** *Schrad.* Erect, leafy; *leaves oblong-lanceolate, acuminate,* striate, glabrous, *petioled:* sheath ciliate, or villous; panicle spreading: branches scattered, simple, or compound: pedicels geminate, short: *spikelets oblong,* with a bluntish point, erect; *all glumes subequal, or the lowest one-third shorter,* the latter 3–5-nerved, 2 following 5–7-nerved: nerves costate; *fertile flower* smooth, oblong-lanceolate, bluntish, half-terete, *thrice as long as the* 2 *basilar appendages.*—*Trin. Ic. t.* 217—P. Martianum, *Ns.* Ichnanthus almadensis, *Kth.*—1′–2′(–5′) high, variable: our Trinidad form (P. Sabinei, *Tr.*) has ensate, glabrous leaves, simple panicle-branches, and the lowest glume shorter than the others. Leaves 6‴–4‴ broad; spikelets 2‴ long.—HAB. Trinidad!, *Cr.;* [Brazil!]

115. **P. lagotis,** *Trin.* Erect, leafy; *leaves ovate-oblong,* or ovate-lanceolate, *pointleted,* striate, glabrous, *petioled:* sheath ciliate; panicle lax: branches scattered, or geminate, simple: pedicels unequal, angular: *spikelets elliptical-lanceolate,* pointed, erect; *lowest glume half as long as the spikelet,* 3–5-nerved, 2 superior equalling the fertile flowers, 5–7-nerved: nerves costate; *fertile flowers* smooth, oblong-lanceolate, bluntish,

half-terete, *twice as long as the 2 basilar appendages.*—Stems 3′–4′ high, several from a fibrous root; leaves 4″–3″ long, 1½″–¾″ broad; panicle 2″–6″, spikelets 3‴ long.—Hab. Trinidad!, *Cr.*; [Brazil].

116. **P. ichnodes,** *Gr.* (*n. sp.*). Stout, leafy below; *leaves long, lanceolate-linear,* acuminate, hairy, or glabrate, *sessile:* midrib prominent beneath: sheath long-pilose, or ciliate, subcompressed, loose; *panicle diffuse: branches* compound, fascicled, *inferior whorled,* hairy at the base: *spikelets oval,* bluntish, *much shorter than the filiform pedicels; lowest glume two-thirds to three-fourths as long as the spikelet,* 3-nerved, second little exceeded by the fertile flowers, third ♂, equalling the latter, both 5–7-nerved; *fertile flower* smooth, elliptical-lanceolate, bluntish, half-terete, 4–5 *times as long as the 2 basilar appendages.*—Structure of *Ichnanthus leiocarpus,* Kth. Rév. t. 168. (Panicum, *Ns.*, *non Tr.*), but leaves narrower, panicle richer (resembling P. maximum), and spikelets half as large. 3′–6′ high; leaves 12″–8″ long, 10‴–8‴ broad: hairs long, scattered; panicle 8″–4″, pedicels 6‴–2‴, spikelets 1‴–1¼‴ long.—Hab. Trinidad!, *Cr.*, heights of S. Anne.

Sect. 4. Lasiacis.—*Spikelets paniculate, deflexed from the lowest, ventricose glume, usually obovate, blunt: pedicels angular. Fertile flower bearing a tuft of villous down at its summit, and with a dorsal furrow above its basilar callus: its palea gibbous above. Sterile glumes leathery-chartaceous, shining,* 7–13-*nerved, often with a terminal tuft of hairs, the lowest short.*—Stem shrubby.

This section comprises nearly allied species, and former authors have combined them altogether: but their growth is very different, though in herbaria several forms appear to pass into each other.

117. **P. divaricatum,** *L.* *Scandent, high:* branches divaricate; *leaves lanceolate-linear,* acuminate, *glabrous,* or slightly puberulous beneath; panicle few-branched: branches simple, or slightly compound: pedicels unequal: *spikelets obovate, blunt, green* (growing black in fruit); *two superior sterile glumes equal;* fertile flowers ellipsoidal, bluntish.—*Jacq. Schœnbr. t.* 25.—P. bambusoides, *Hamilt.* P. latifolium, *var.* angustifolium, *Tr.* (*Pl. Spruce, Pan.* 23).—8′ high (*Jacq.*), or arborescent (*Ham.*): stem size of a goosequill (*Wils.*); leaves 2″–4″ long, 2‴–6‴ broad; panicle 2″–4″ long.

α. Leaves glabrous; spikelets 2‴ long; sterile glumes roundish, two superior 11–13-nerved, as long as the fertile flower.—P. Chauvinii, *Steud.*

β. stenostachyum. Leaves glabrous; spikelets 2‴ long; sterile glumes elliptical, 2 superior 7–11-nerved, a little exceeding the fertile flower.

γ. puberulum. Leaves puberulous beneath; spikelets 1½‴ long; sterile glumes roundish, 2 superior 11–13-nerved, as long as the pyriform fertile flower.—P. glutinosum, *Lam.* (*Ill. t.* 43. *f.* 3. *sup.*) *and Mey.* (*non Sw.*).

Hab. Jamaica!, *Al.*, *Wils.*, *March,* common in woods (*α*, *β*); Antigua!, *Nichols, Wullschl.* (*α*), Dominica!, *Imr.* (*β*); Trinidad!, *Cr.* (*γ*); [Cuba! to Brazil!].

118. **P. Sloanei,** *Gr.* Trailing: branches spreading; *leaves oblong-lanceolate,* acuminate, often oblique, *glabrous;* panicle lax, diverging: branches distant, slightly compound: pedicels unequal: *spikelets obovate, blunt, green* (growing purplish in fruit); *sterile glumes* roundish, 2 *superior unequal,* 11–13-nerved, *second exceeded by the fertile flower,* third equalling it; fertile flower ellipsoidal, bluntish.—*Sl. t.* 71. *f.* 3.—P. latifolium jamaicense, *L.*, *Trin.*, *Hamilt.* P. divaricatum, *Prl.* (P. arborescens, *Sieb. Mart.* 267).—1′–several feet high; leaves 3″–5″ long, 9‴–14‴ broad; panicle 5″–10″, spikelets 2‴ long. Hab. Jamaica!, *Pd.*, *Wullschl.*, in woods, Manchester; [Cuba! to French islands!].

119. **P. lanatum,** *Sw.!* *Erect, stout:* branches spreading; *leaves lanceolate, or oblong-lanceolate,* acuminate, oblique at the base, *pubescent, or puberulous;* panicle lax, spreading: branches compound, often fascicled: pedicels slender: *spikelets obovate, bluntish, purple:* 2 *superior sterile glumes equal,* 9–13-nerved, as long as the ovoid, blunt fertile flower.—P. agglutinans, *Kth.*—6′–12′ high; panicle 12″–4″, spikelets 1½‴ long.

α. Leaves lanceolate, 6″–3″ long, 6‴–9‴ broad: sheath tubercled, pilose, or villous; superior sterile glumes oval, 9–11-nerved.—6′ high (*Sw.*).

β. sorghoideum, Hamilt. Leaves oblong-lanceolate, puberulous, 6″–8″ long, 10‴–20‴ broad: sheath little pilose, or glabrous; superior sterile glumes roundish, 11–13-nerved.—P. megacarpon, *Steud. in Pl. Lechler,* 2219.—10′–12′ high (*Wils.*).

HAB. Jamaica!, all coll., in moist mountain-woods (α, β); Antigua!, *Wullschl.* (β), Dominica!, *Imr.* (β); Trinidad!, *Sch.* (α); [Panama!, Peru!].

120. **P. compactum,** *Sw. Herb.! (n. sp.)* *Erect; leaves oblong-lanceolate,* acuminate, *glabrous; panicle dense, ovoid:* branches compound, whorled; pedicels usually as long as the spikelet: *spikelets globose-ellipsoidal, pointed, yellowish-green; 2 superior sterile glumes roundish, equal,* 7–9-nerved, as long as the roundish-ovoid, blunt fertile flower.—*P. arundinaceum,* var. Sw. herb.!: confounded by him with *Isachne,* but well distinguished by him in his other label.—Leaves 5″–6″ long, 1″ broad: sheath glabrous; panicle 4″ long, 2″ broad; spikelets very numerous, 1¼‴ long.—HAB. Jamaica!, *Sw.*

121. **P. martinicense,** *Gr.* *Erect; leaves lanceolate-acuminate, puberulous;* panicle spreading-erect: branches simple, or slightly compound, fascicled, the lowest included at the base within the uppermost sheath: pedicels unequal, scabrous: *spikelets ellipsoidal, pointed, brownish-green; 2 superior sterile glumes elliptical, equal,* 7–13-nerved, exceeding the elliptical-oblong, blunt fertile flower.—P. fuscum, *Sieb. Mart.* 29. (P. glutinosum, *Prl., non Sw.*) P. divaricatum, *Kth. Rév. t.* 29 (*non L.*): apparently the same.—Leaves 5″–6″ long, 6‴–8‴ broad: sheath glabrescent; panicle 4″–2″ long, 1″ broad: branches longer than in the preceding, spikelets rather distant, 2‴ long: nerves of the third glume connected above, as in all the preceding species of *Lasiacis.*—HAB. Jamaica!, *Wullschl.*; [Martinique!, Panama!, Guiana].

Sect. 5. MILIARIA, *Tr. emend.—Fertile flower biconvex: sterile glumes appressed to it, submembranaceous. Spikelets ellipsoidal, or obovate, paniculate: pedicels filiform, or hair-like.*

122. **P. glutinosum,** *Sw.* *Perennial,* stout; leaves long, lanceolate, or lanceolate-linear, acuminate; panicle large: *lower branches whorled, little compressed:* whorls distant: pedicels geminate, long, filiform, distant: *spikelets ellipsoidal,* or *obovate, with a bluntish point: all glumes subequal, the 2 inferior viscous,* growing blackish, 5–7-nerved, third with a palea; fertile flower ellipsoidal, pointed, terete, equalling the glumes, smooth.—3′–4′ high; leaves 12‴–4‴ broad, in the West Indian grass ciliate with a glabrous sheath, (in a Brazilian form the sheath is hispid); panicle usually 1′ long, often fastigiate; spikelets 1‴–1¼‴ long.—HAB. Jamaica!, *Pd., Wullschl.,* in mountain-woods; [Cuba!, Venezuela!, Peru!, Brazil!].

123. **P. trichanthum,** *Ns.* *Perennial,* dichotomously branched below; leaves lanceolate, acuminate, subcordate at the base, puberulous: sheath glabrous; panicle diffuse, spreading: branches often fascicled, inferior compound: pedicels long, hair-like: *spikelets ellipsoidal, pointed,* glabrous; *lowest glume minute,* blunt, 2 superior equalling the flower, 3–5-nerved, *third devoid of a palea;* fertile flower ellipsoidal, pointed, nearly terete, smooth.—P. trichoides, *Kth.* (*non Sw.*)—Several feet high, somewhat woody below; leaves 3″–4″ long, 5‴–9‴ broad; panicle 6″–8″ long and broad; spikelets ⅓″ long.—HAB. Jamaica!, *Pd.,* rare, Westmoreland; [Mexico!, Guiana!, Brazil!].

124. **P. brevifolium,** *L.* *Annual,* geniculate-rooting at the branched base; leaves oblong-lanceolate, acuminate, rounded at the base: sheath pilose; panicle diffuse, spreading: branches scattered, inferior compound: pedicels long, hair-like: *spikelets obovate, bluntish, puberulous; lowest glume* ½(–⅓) *as long as the spikelet,* 2 *superior* equalling the flower, 3(–5)-*nerved, third with a small palea;* fertile flower ellipsoidal, bluntish, smooth, at length nearly terete: palea slightly convex.—*Sl. t.* 72. *f.* 3.—P. trichoides, *Sw., Sieb. Mart.* 28.—Spithameous–2′ high; leaves 1″–2½″ long, 4‴–9‴ long; panicle 3″–6″ long, not quite as broad; spikelets ⅓‴ long.—HAB. Jamaica!, *Marsh, Wils.*; Dominica!, *Imr.*; Trinidad!, *Sch.*; [Cuba! and Mexico! to Brazil!].

125. **P. cyanescens,** *Ns.* *Perennial,* slender, erect, leafy below, glabrescent; leaves lanceolate-acuminate, rigid: ligule ciliate; panicle loose, spreading: branches scattered, lower compound: pedicels long, hair-like: *spikelets ovoid, blunt, glabrous; lowest glume exceeding half the spikelet,* 2 *superior* equalling the flower, 5-*nerved, third with a palea;* fertile flower ovoid, bluntish, smooth, terete.—*Trin. Ic. t.* 230.—*P.* 8, *Pl. Spruce.*—Stems several, 1′–2′ high; leaves 2‴–4‴ (–5‴) broad, striate; panicle 2″–4″, spikelets ½‴–⅓‴ long; third glume ♂, or neutral.—HAB. Trinidad!, *Pd., Lockh., Cr.,* in wet savannahs; [Texas! to Brazil!].

126. **P. dichotomum,** *L.* Leaves lanceolate, acuminate; panicle few-branched: branches scattered, simple, or lower compound: pedicels unequal, hair-like: *spikelets elliptical, bluntish; lowest glume* ⅓–¼ *as long as the spikelet,* bluntly deltoid, 2 *superior* equalling the flower, 9–7-*nerved, third with a short palea;* fertile flower ellipsoidal, blunt, smooth, more than half terete: palea slightly convex.—Leaves 2‴–1½‴ broad: ligule long-ciliate; panicle 1″–1½″, spikelets ½‴ long. The West Indian forms are:

α. acuminatum, Sw.! Leaves and sheaths densely and softly pilose; panicle subincluded; spikelets pubescent.—Stem creeping, or ascending, 6″–8″ long.

β. glabrescens. Densely cæspitose, low; leaves glabrous, except at the tubercled-ciliate base: sheath ciliate; panicle peduncled, exserted; spikelets glabrous.

Hab. Jamaica, *Sw., M'Nb.,* in sandy hills (α); *Pd.,* in mountain-savannahs (β); [United States!].

38. ISACHNE, *R. Br.*

Character of *Panicum,* but sterile flower chartaceous like the fertile one.—Habit of *Panicum,* sect. *Miliaria.*

127. **I. arundinacea,** *Gr. Stout,* glabrous; *leaves long,* lanceolate, narrowly acuminate; panicle dense, oval: branches compound, filiform: pedicels short, unequal: spikelets ovoid; 2 *inferior glumes equal,* costate-5-nerved, *glabrous,* lowest often ciliate above, exceeded by the ♂ flower, as long as the fertile; *both flowers glabrous, half-terete.*—Panicum, *Sw.! P.* dispermum, *Lam.* I. panicea, *Tr.* I. dubia, *Kth.*—4′–10′ high, woody at the base; leaves 5‴–10‴ broad; panicle 3″–6″, spikelets ½‴ long.—Hab. Jamaica!, *Sw., Macf.,* in high mountains, S. Andrews; S. Vincent, *Guild.;* [Martinique!, Mexico!, Venezuela!].

128. **I. rigens,** *Trin. Decumbent, branched; leaves short,* linear, acuminate, usually scabrous: sheath ciliate; panicle short, spreading: branches scattered, nearly simple: pedicels unequal, obtuse-angled; spikelets ovoid; 2 *inferior glumes unequal,* 7(–5)-nerved, slightly scabrous, lowest exceeded by the ♂ flower, as long as the fertile; *both flowers glabrous, pubescent at their callus,* fertile and little distant, half-terete.—Panicum, *Sw.!* P. arbusculum, *Sieb. Mart.* 265.—6″–12″ long; leaves 1″–2″ long, 1½″–2″ broad; panicle 1″–2″, spikelets ½‴ long.—Hab. Jamaica!, *Sw., Macf.,* in high mountains; [Martinique!; Venezuela!].

129. **I. pygmæa,** *Gr.* (*n. sp.*) *Low, decumbent,* cæspitose, diffuse, glabrous; *leaves short,* linear, acuminate, rigidly spreading, polished-striate, cartilaginous at the margin: sheath shortly ciliate above, or glabrescent; *panicle* short, simple, *contracted:* pedicels short, angular: spikelets ovoid; 2 *inferior glumes subequal,* 5-nerved, glabrous, *exceeded by both flowers;* both *flowers glabrous, half-terete.*—About 2″ high, forming tufts of 3″–4″ diam. from a fascicled root; leaves distichous, 6‴ long, ¾‴–1‴ broad; panicle scarcely exserted, linear, 3‴–6‴ long, green: branches few, appressed, with a few, geminate, unequal pedicels; spikelets blunt, ½‴ long.—Hab. Jamaica!, *Macf.,* probably an alpine grass, like the preceding.

39. HYMENACHNE, *P. B.*

Character of *Panicum,* but fertile flower chartaceous, or coriaceous, not indurated in fruit, and panicle contracted.—Tall, erect, glabrous, aquatic or bog-grasses; panicle *long, spiciform.*

130. **H. Myurus,** *P. B.* Leaves cordate at the clasping base, lanceolate-acuminate, or lanceolate-linear; panicle cylindrical: pedicels short: *spikelets lanceolate,* acuminate; lowest glume one-third as long as the spikelet, 2 superior 3–5-nerved, slightly unequal, third devoid of a palea; *fertile flowers chartaceous,* oblong-lanceolate, pointed, *little shorter than the third glume,* compressed from the back.—*Trin. Ic. t.* 205.—Panicum, *Lam.* P. amplexicaule, *Rudg.*—6′ high; leaves, 6‴–2‴ broad; panicle green, 6″–15″, spikelets 2‴ long.—Hab. Jamaica!, *Pd., Dist.,* in ditches; Dominica!, *Imr.!* Trinidad!, *Cr.;* [French islands to Brazil!; East Indies!].

131. **H. fluviatilis,** *Ns.* Leaves linear; panicle cylindrical: pedicels short: *spikelets ovate, pointed;* lowest glume half as long as the spikelet, 2 superior 7–9-nerved, equal, third with a palea; *fertile flowers coriaceous,* ellipsoidal, pointed, subterete, *half as long as the second and third glume.*—*Trin. Ic. t.* 204.—P. vilfoides, *Trin.*—1½′–3′ high; leaves 2‴–3‴

broad; panicle brownish-green, 8″–18″, spikelets $\frac{3}{4}'''$ long.—HAB. Trinidad!, *Cr.*, in savannahs; [Guiana, Brazil; trop. Africa].

132. **H. striata,** *Gr.* Leaves lanceolate-linear, or linear; *panicle* narrow, *somewhat loosened below:* inferior branches much exceeding their internodes: pedicels unequal, filiform, jointed at the dilated summit, the longer as long as the spikelet: *spikelets oblong-lanceolate, bluntish, gibbous at the dorsal side;* lowest *glume* short, 2 superior equal, *second* 11-, *third* 5-*nerved*, the latter with a palea: *nerves costate; fertile flower coriaceous*, elliptical-oblong, blunt, flat-convex, half-terete, *half as long as the third glume* and its palea.—Panicum, *Lam. sec. Ns.* P. gibbum, *Ell.!*—3′–4′ high; leaves 3‴–8‴ broad; panicle dark-green, 5″–10″, spikelets 2‴ long.—HAB. Jamaica!, *Pd.*, lagoons above the ferry; [Southern United States! to Guiana!].

40. SETARIA, *P. B.*

Character of *Panicum*, but *spikelets* supported by scabrous, sterile branches of the pedicel (the involucre), and panicle contracted.

In the allied, bristle-bearing species of *Panicum* (*e.g. P. sulcatum*, Aubl.) the bristles are apparently homologous to the sterile branches of *Setaria*, but they proceed from the axis, not from the pedicel itself.

* *Panicle densely cylindrical, or interrupted at the base.*

133. **S. viridis,** *P. B.* Annual; *panicle* cylindrical, *erect*, green: branches short, contiguous; involucral bristles in clusters, roughened upwards, exceeding the spikelet; *fertile flower minutely dotted*, flat-convex, thrice as long as the lower glume, equalling both the superior sterile ones.—*Trin. Ic. t.* 203.—Panicum, *L.*—HAB. Jamaica!, *Pd.*, on roadsides, naturalized; [Europe and Northern Asia].

134. **S. glauca,** *P. B.* *Panicle* cylindrical, *erect*, usually tawny-yellow: branches short, contiguous; involucral bristles usually in clusters, roughened upwards; *fertile flower transversely wrinkled*, flat-convex, twice–thrice as long as the lower, about twice as long as the second, equalling the third glume.—*Trin. Ic. t.* 195.—Panicum, *L.*

α. Annual; bristles about twice as long as the spikelet.—S. intermedia, *R. S.:* our Jamaica form with a greenish panicle.

β. imberbis, R. S. Annual; most bristles about as long as the spikelet, or a few twice as long.—*Trin. Ic. t.* 196.—Panicum, *Poir.*

γ. penicillata. Root at length creeping: bristles yellow, or purple, 4 times (rarely twice) as long as the spikelet.—Panicum, *W.*, *Tr.*—When flowering with a fibrous root, it is *S. Ventenatii*, Kth. (*Rév. t.* 37): afterwards it gets a rhizome, and looks like a distinct species, but by forms with shorter bristles (*e.g. Sieb. Mixt.* 368) it passes into *α*.

HAB. Jamaica!, *Al.*, *Marsh*, *Wils.* (*α*, *β*, *γ*); S. Kitts!, *Els.* (*γ*), Antigua!, *Wullschl.* (*β*, *γ*); Trinidad!, *Sieb.*, *Pd.*; [temperate and tropical zones of the globe].

135*. **S italica,** *P. B.* Annual; *panicle* cylindrical, at length *nodding* at the summit: branches contiguous, or a little distant below, ovate, or oblong; involucral bristles 3–1, roughened upwards, usually much exceeding the spikelet: spikelets elliptical-oblong; *fertile flower minutely dotted*, at length almost smooth, flat-convex, twice–thrice as long as the lower, *little longer than the second*, equalling the third *glume*, the latter devoid of a palea.—*Trin. Ic. t.* 198.—Panicum, *L.*—2′–4′ high; panicle about 1″ diam., much stouter, and leaves often broader than in the two preceding species.—HAB. Naturalized and cultivated in Jamaica!, *March;* [introduced from the East Indies].

136. **S. magna,** *Gr.* (*n. sp.*) "Annual," tall, broad-leaved; *panicle* cylindrical, *virgate:* branches short, contiguous, or the lowest slightly distant: common axis pilose; involucral bristles 3–1, roughened upwards, much exceeding the spikelet: spikelets elliptical, bluntish; *fertile flower smooth*, flat-convex, twice–thrice as long as the lowest glume, *equalling both the superior ones*, the second 5-nerved, the third with a palea.—Habit of a long-panicled *S. italica*, but stem 10′ high, pubescent below the nodes, compressed above the base, 6‴ broad and a spontaneous production of the West Indies. Root creeping, and fascicled, but annual (*Pd.*); leaves long, 10‴–6‴ broad, scabrous at the nodes: ligule and compressed sheath ciliate; panicle 8″–12″ long, 8‴–12‴ thick (the bristles included), pale-green; spikelets 1‴, bristles 6‴–4‴ long, of the latter 1–3 below each spikelet and bundles

between them; palea of the neutral flower as long as its 5-nerved glume.—HAB. Jamaica!, *Pd.*, along the lagoons behind the ferry.

** *Panicle loosely contracted: branches spreading-erect.*

137. **S. vulpiseta,** *R. S.* Root creeping; *leaves lanceolate, long-tapering at the base:* sheath and nodes pubescent; panicle stout, loosely contracted, erect, tawny-yellow: *branches contiguous,* much longer than their internodes: axis pilose; involucral bristles single at each pedicel and in clusters between them, roughened upwards, much exceeding the spikelet: spikelets elliptical, pointed; *fertile flower transversely striate chiefly below,* flat-convex, thrice as long as the lower, *little longer than the second, 7-nerved glume,* equalling the third, the latter with a palea.—*Sl. t.* 70. *f.* 1.—Panicum macrostachyum, *Ns.* (*exclus. syn. Kth.*).—4′ high; leaves 10‴–12‴ broad; panicle 1′ long, 1½″ broad; branches 1½″–1″, bristles 6‴–10‴, spikelets 1‴ long.—HAB. Jamaica (*Sl.*); Trinidad!, *Cr.*; [Haiti to Brazil].

138. **S. biconvexa,** *Gr.* (*n. sp.*) Nodes puberulous or glabrate; *leaves lanceolate-linear, bluntish at the base:* sheath and ligule ciliate; panicle virgate, tapering above, loosely contracted: *branches subcontiguous,* much longer than their internodes: common axis villous; *involucral bristles* single at each pedicel and in clusters between them, *roughened upwards and downwards,* much exceeding the spikelet: spikelets subglobose, bluntish; *fertile flower transversely striate, biconvex,* thrice as long as the lower, *twice as long as the second glume,* equalling the third, the latter with a palea.—Allied to *S. composita,* Kth., in which the second glume equals the flower. Stem cylindrical, 2‴–3‴ thick; leaves 1′–1½′ long, 9‴–12‴ broad; panicle yellowish, 1′ long, 1½″ broad below: its inferior branches 1″ long, superior gradually shorter, bristles 6‴–8‴ long; spikelets 1‴ diam., gibbous: lowest glume ovate, pointed, 5-nerved, 3 superior 7-nerved, oval-roundish, mucronulate: glume of the fertile flower half-globose: its palea convex.—HAB. Trinidad!, *Cr.*, at S. Anne.

139. **S. onurus,** *Gr.* Root at length creeping; stem slender: nodes glabrous; *leaves linear,* tapering at the base; panicle slender, virgate, *interrupted:* branches about as long as their internodes: common axis pilose; *involucral bristles* 1(–3), *roughened upwards, and* more sparingly *downwards,* much exceeding the spikelet: spikelets ovate-globose, shortly pointed; *fertile flowers transversely striate, biconvex,* equalling or shortly exceeding the third glume: first *glume* ⅓, *second* ⅔–½ *as long, both* 11–9-*nerved,* third with a palea.—*Trin. Ic. t.* 96 *B. and analyt. in* 95.—Panicum, *W.* P. setosum β, *Ns.*—Stem 1′–4′ high, 1‴–1½‴ thick; leaves 4‴–6‴ broad; panicle green, 2″–8″ long, cylindrical: branches 2‴–3‴, bristles 8‴–12‴, spikelets 1‴ long.—HAB. Jamaica!, *Waters, March*; [Mexico! to Uruguay].

140. **S. setosa,** *P. B.* Root at length creeping; stem slender: nodes glabrous; *leaves linear-acuminate; panicle* slender, virgate, *interrupted:* branches as long (or twice as long) as their internodes: common axis pilose; *involucral bristles* 1(–3), *roughened upwards,* usually much exceeding the spikelet: spikelets elliptical, pointed; *fertile flower transversely striate, flat-convex,* equalling the third glume: first *glume* ⅓–½, *second* ⅔–⅚ *as long, both* 7-*nerved,* third with a palea.—*Trin. Ic. t.* 96. *A.*, 95 (*exclus. analyt.*).—Panicum, *Sw.* S. macrostachya, *Kth.* S. antillarum, *Kth.* (*ex Anders. pl. Galapag.*)—Habit of the preceding: bristles shorter, leaves 2‴–6‴ broad.

α. Branches of the panicle 2‴–10‴, bristles 4‴–6‴ long.

β. caudata, R. S. Branches of the panicle very short, often reduced to 1–3 spikelets; bristles few, unequal, 3‴–5‴ long.—*Trin. Ic. t.* 96. *C.*—Panicum, *Lam.*

HAB. Jamaica!, *Al., March* (*α*); Antigua!, *Wullschl.* (*α, β*); [Cuba! and Mexico! to Brazil!; Galapagos!; East Indies].

41. PENNISETUM, *Rich.*

Spikelets in a simple spike, involucrate: *involucre-bristles* distinct, deciduous with the spikelet, the interior plumose below. *Sterile glumes* 3, or 2 by abortion of the lowest, membranaceous. *Fertile flower* chartaceous, at length indurated. *Lodiculæ* usually none. *Stigmas* projecting from the summit of the flower, usually cohering at the base.—Involucre *mostly coloured:* bristles *scabrous, unequal, the exterior longer.*

141. **P. setosum,** *Rich.* Perennial, tall; leaves linear-acuminate, glabrous; spike

cylindrical, dense; involucre sessile: *bristles* setaceous, *several or many more than twice as long as the single spikelet;* lowest glume short or usually wholly wanting.—*Kth. Rév. t.* 39.—Cenchrus, *Sw.* (P. Richardi *and* purpurascens, *Kth.*): the form with the lowest glume appearing. P. uniflorum, *Kth.:* the common form with the lowest glume abortive, and the third often devoid of its palea.—2′–4′ high; spike 3″–6″, longer bristles 6‴–12‴ long, usually purplish; —HAB. Jamaica (*Sw.*), on limestone; S. Kitts!, *Els.*, Dominica!, *Imr.*, S. Vincent, *Guild.;* Trinidad!, *Cr.*, in savannahs; [Mexico! to Brazil!; trop. Africa!; East Indies].

42. CENCHRUS, *L.*

Character of *Pennisetum*, but involucre indurated, its scales or bristles united at the base, often spinose, roughened downwards.—Spikelets 1–*several in each involucre, usually pedicellate;* pedicel *at length turbinate.*

142. **C. echinatus**, *L.* Annual; *involucre about as long as the spikelets: tube* internally slit, *many-lobed to the middle*, pubescent: *lobes lanceolate-acuminate: scales* several-seriate at the outside of the tube, recurved, *middle linear-acuminate*, spinescent, *lowest shorter, setaceous.—Schreb. Gram. t.* 23.—Variable in the length of the spike, the size of the spikelets (2‴–3‴ diam.), the length of the lowest glume, the number of the glume-nerves, and in the development of the palea in the ♂ or neutral flower.

α. Decumbent; spike 1″–1½″ long; involucre small: spines not exceeding the spikelet. —C. pungens, *Kth.*

β. viridis, Spreng., C. Müll. Spike 1½″–3″ long; involucre larger: spines stouter, the longest exceeding the spikelet.—C. echinatus, *Kth.*, *Sieb. Mart.* 17. C. dactylolepis, *Steud.*

HAB. Bahamas!, *Hjalmars* (α); Jamaica!, *all coll.*, in savannahs, and along the seacoast; S. Kitts!, *Els.* (β), Antigua, *Wullschl.* (α), Dominica!, *Imr.* (α); Trinidad!, *Sch.;* [Mexico! to Brazil!; trop. Africa!; East Indies].

143. **C. tribuloides**, *L.* Annual; *involucre exceeding the spikelets: tube* ovoid-globose, *many-lobed to the middle: lobes and all scales lanceolate-acuminate*, the latter several seriate at the outside of the tube, recurved, spinescent: *no or few basilar bristles.—Sl. t.* 65. *f.* 1.—C. spinifex, *Cav.* (*Ic. t.* 461): a form with small spikelets. C. platyacanthus, *Anders.:* the same with few-nerved glumes. All West Indian specimens agree with this in the small size of the spikelet (2‴ diam.), while in the northern, original form the spikelets are usually twice as large: the species however is as variable as the preceding, and often difficult to be distinguished from it.—HAB. Jamaica!, *Wils.;* Antigua!, *Lane, Wullschl.;* Dominica!, *Imr.;* [Canada! to Brazil!; trop. Africa!; East Indies!].

43. ANTHEPHORA, *Schreb.*

Character of *Cenchrus*, but involucre 1-seriate, 4–5-partite, and lowest glume wanting.—An annual grass; segments of the involucre *ovate-lanceolate, acuminate, contracted at the base, including* 5–1 *spikelets.*

144. **A. elegans,** *Schreb. Gram. t.* 44.—Tripsacum hermaphroditum, *L.*—The West Indian form is glabrous. Spiciform raceme cylindrical, 4″–2″ long.—HAB. Jamaica!, *Al., March, Wullschl.;* Antigua!, *Wullschl.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [Mexico! to Brazil!].

44. ARUNDINELLA, *Radd.*

Sterile glumes 3, third with a palea, usually ♂. *Fertile flower* chartaceous, supported by hairs at the base, awned: *awn* twisted.—Spikelets *paniculate:* pedicels *geminate, unequal.*

145. **A. martinicensis,** *Trin.* Perennial, stout; leaves linear-acuminate, scabrous: sheath hispidulous; panicle, dense, erect: inferior branches whorled, compound: spikelets lanceolate; *glumes* unequal, 3–5-nerved, *second twice as long as the fertile flower; awn* geniculated, *twice as long as its entire glume.*—A. pallida *var.* laxa, *Ns.!* Ischæmum hispidum martinicense, *Kth.*—4′-6′ high; panicle 6″–12″, spikelets (the awn excluded) 2‴ long, usually purplish.—HAB. Jamaica!, *Pd.*, *Hartw.;* Westmoreland, Hanover, Trinidad, *Cr.*, in swamps; [French islands; Panama!].

45. TRICHOLÆNA, *Schrad.*

Inferior sterile glume minute, or wanting, second and third membranaceous, including the chartaceous flower.—Spikelets *villous-hairy, pedicellate, jointed at the base.*

146. **T. insularis,** *Gr.* Stout; leaves glabrous, linear-acuminate, or lanceolate-linear; branches of the panicle whorled: *pedicels unequal, geminate:* spikelets lanceolate, acuminate, awnless; *lowest glume minute,* glabrous, 2 *superior sericeous-woolly, equal,* the third devoid of a palea; flower acuminate.—*Sl. t.* 14. *f.* 2; *Trin. Ic. t.* 220.—Andropogon, *L.* Panicum leucophæum, *Kth.* P. Duchassaingii, *Steud.* Trichachne sacchariflora, *Ns.* (*ex Sieb. Mart.* 30: *exclus. foliis*). Saccharum polystachyon, *Sieb.* (*non Sw.*).—Panicle 6″–10″, spikelets 2‴–3‴ long.—Hab. Jamaica!, *Linds.*, *Waters, March;* S. Kitts!, *Els.*, Antigua!, *Wullschl.*, Dominica!, *Imr.;* [Texas! and Cuba! to Patagonia!].

147. **T. saccharoides,** *Gr.* Stout; leaves linear-acuminate: upper side hairy; spiciform racemes long, filiform, half-whorled in a corymbiform panicle: *pedicels short, single,* distant: axis glabrous, at length flexuose: spikelets lanceolate, acuminate, awnless; *lowest glume wanting* (or abortive), *second woolly along the margin,* with long, sericeous hairs, *third shorter, glabrous,* devoid of a palea; flower pointed.—*Kth. Rév. t.* 30; *Trin. Ic. t.* 107.—Panicum, *Kth.* Paspalum, *Ns.* Saccharum polystachyon, *Sw.*—Spikes numerous, 10″–6″, spikelets (the wool excluded) 1‴ long.—Hab. S. Kitts, Dominica!, *Imr.*

Subtribe 2. *SACCHAREÆ.—Fertile flower membranaceous, not indurated: sterile glumes usually of firmer texture.*

46. LAPPAGO, *Schreb.*

Spikelets glomerate-racemose, hermaphrodite, flat-convex, awnless. *Lowest glume* wanting, second minute, membranaceous, third rigid, glochidiate-muricate, devoid of a palea. —Annual grasses.

148. **L. aliena,** *Spreng.* Raceme slender: spikelets elliptical-lanceolate, 2(–1) in each glomerule, one usually imperfect; *bristles* 5-*seriate,* subequal, about as long as the transverse diameter of the spikelet.—*Kth. Rév. t.* 120.—L. racemosa, var. *Kth.* Tragus occidentalis, *Ns.!* T. Berteroanus, *Schult.*—Spikelets 1‴ long, smaller than in *L. racemosa,* Schreb., which has unequal, 7-seriate bristles.—Hab. Jamaica!, *Pd.*, *Al.;* Antigua!, *Wullschl.;* [Texas! to Brazil!; trop. Africa to the Cape!; Arabia! to East Indies!].

47. MANISURIS, *Sw.*

Spikelets in a simple, jointed spike, awnless, alternately fertile and neutral (or "♂"), the fertile sunk into the excavated axis. *Sterile glumes* in the latter 2, rigid, exterior placed against the palea of the small, membranaceous flower; sterile spikelets often reduced to 2 leathery glumes.—Annual grasses; spikes *terminal and axillary.*

149. **M. granularis,** *Sw.* Erect, pilose at the sheaths; *exterior glume* of the fertile spikelet *concave-hemispherical,* cartilaginous, *densely reticulated-scrobiculate.*—*Sl. t.* 80.—Cenchrus, *L.*—1′–3′ high; spikes 6‴–8‴ long: peduncles included within leaf-sheaths, reticulated glumes whitish, about 1½‴ diam.—Hab. Jamaica!, *Macf.*, *Wils.*, *March,* on dry limestone; Trinidad!, *Sch.;* [southern United States! and all tropical countries].

48. TRIPSACUM, *L.*

Spikelets monœcious, awnless, in jointed spikes, ♂ superior, geminate, ♀ inferior, single, wholly imbedded into the excavations of the axis. *Exterior* ♂ *glume* leathery, interior chartaceous: membranaceous flowers 2. *Exterior* ♀ *glume* cartilaginous, interior thinner, third neutral, membranaceous: flower single. *Anthers* opening with pores.—Tall, perennial grasses; spikes *terminal, single or digitate.*

150. **T. monostachyum,** *W.* Stout, branched; leaves lanceolate-acuminate; *spike solitary, cylindrical at the base:* ♂ *spikelets distichous; exterior* ♂ *glume* 7–9-*nerved*

within the juxtamarginal, scabrous *keel;* furrows of the ♀ axis ciliate at the open base.—*Willd. Hort. t.* 1.—Rottbœllia exaltata, *Sw. Obs.?* (*non L.*): the analytical details do not agree.—Leaves 12‴–15‴ broad; spike 4″–6″, ♀ part about 1″ long.—Hab. Jamaica (*ex synon. Sw.*); Trinidad!, *Cr.;* [United States to Brazil].

49. ANDROPOGON, *L.*

Spikelets along a jointed axis, the lateral geminate, the fertile in each pair sessile, the pedicellate incomplete or tabescent. *Two inferior sterile glumes* herbaceous or chartaceous, the third membranaceous, devoid of a palea. *Fertile flower* awned: awn geniculated, twisted.—Perennial grasses, *rarely annual;* axis *of the inflorescence usually bearded.*

Sect. 1. Heteropogon, *Pers.—All inferior spikelets ♂, awnless: of the superior the fertile one awned: axis bearded above, glabrous between the ♂ spikelets: superior joints separating. Exterior glumes awnless: fertile (fourth) glume minute, devoid of a palea.*

151. **A. secundus,** *W.* (*apud Ns., non Kth.*). Nodes and leaves (except at the base) glabrous; *spike solitary: ♂ glumes acuminate, long-ciliate* beneath the winged margin, glabrous on the striate back; fertile spikelet shortly bearded at the base: *awn* very long, *pubescent below the knee, scabrous above it.*—A. contortus, *L. ex parte* (not the homonym of the old world). Heteropogon hirtus, *Pers.* (*ex pl. Spruce*).—Spike 1″–2″ long: ♂ spikelets oblong-lanceolate, ♀ subcylindrical, pubescent: awns 3″ long, turned irregularly to one side.—Hab. Antigua!, *Wullschl.;* [Cuba! to Peru!].

Sect. 2. Gymnandropogon, *Ns.—Fertile spikelets awned, pedicellate ♂ or neutral, awnless: axis bearded: joints separating. Exterior glumes awnless, third and fourth (the fertile) devoid of paleæ.*

152. **A. saccharoides,** *Sw.!* Nodes bearded; leaves pilose near the base or glabrescent; *spikes fascicled-racemose; pedicellate spikelets* neutral, *as long as* or exceeded by *the sericeous beard* of the axis; fertile spikelets sericeous-villous below; 2 exterior *glumes* acuminate, striate, *fourth transformed into the scabrous awn:* exserted part of the latter 3–5 times as long as the glumes.—Cultivated in European gardens as *A. argenteus,* DC.—1′–3′ high, variable in the length of the leaves, the number of spikes, the down of the glumes, and the development of the neutral spikelets; ♀ spikelets 2‴ long, oblong-lanceolate.—Hab. Jamaica!, *Sw.*; *Wullschl.*, on dry hills; Antigua!, *Wullschl.*, Dominica! *Imr.;* [Arkansas!, New Mexico!; Cuba! to Buenos Ayres!].

Sect. 3. Schizachyrium, *Ns.* (Cymbopogon, *Ns.*). *Character of* Gymnandropogon, *but spikes supported by cymbiform bracts, pedicellate spikelets often awned, joints tardily separating, and fourth (the fertile) glume 2-partite or 2-fid, with the awn inserted between the divisions.*

153. **A. brevifolius,** *Sw.!* Slender, ascending, branched; nodes and short leaves glabrous; *spikes in bracteate racemes,* included partly within the narrow bract: *joints thickened, glabrous, except a short beard at the base of the fertile spikelets:* pedicellate spikelets reduced to 1–2 glumes: one of the latter terminated with a straight awn; exterior glumes of the fertile spikelet awnless, lowest acuminate, shortly 2-dentate, fourth 2-partite: exserted part of its awn twice–thrice as long as the glumes.—*Kth. Rév. t.* 196.—Schizachyrium, *Ns.*—2′–4′ high, said to be annual; bracts about 1″ long; ♀ spikelets lanceolate, 1½‴ long.—Hab. Jamaica!, *Sw.*, *Wullschl.*, in sandy soil; Trinidad!, *Cr.;* [Cuba! and Mexico! to Brazil!; trop. Africa; East Indies!].

154. **A. condensatus,** *Kth.* Stout, erect, glabrous; *spikes in a dense panicle,* included partly by the narrow bract: *joints and pedicels thickened above, bearded their whole length with spreading wool:* pedicellate spikelets reduced, subuliform; exterior glumes of the fertile spikelets acuminate, fourth 2-partite: exserted part of its awn twice as long as the glumes.—Schizachyrium, *Ns.*—2′–5′ high; panicle often 1′, bracts 6‴–9‴, spikelets 2‴ long, the latter linear-acuminate.—Hab. Trinidad!, *Sch.*, *Cr.*, in savannahs; [Mexico! to Uruguay!].

155. **A. gracilis,** *Spreng.* Cæspitose, slender, glabrous; leaves convolute-setaceous; *spikes solitary:* the lateral distant, sheathed by a narrow bract: *joints and pedicels filiform, bearded their whole length with spreading wool:* pedicellate spikelets reduced to a single, awned glume; exterior glumes of the fertile spikelet acuminate, fourth shortly 2-fid: exserted part of its awn 3–4 times as long as the glumes.—Habit of *Anatherum domingense,* but awn geniculated in the fertile flower.—1′–2′ high; spikes delicate, about 1″ long: bract 1″–2″ long: peduncle included or exserted; spikelets 2‴ long, lanceolate, exceeded by the sterile, woolly pedicel: awn of the latter straight.—HAB. Jamaica!, *Wullschl.,* Manchester; [Cuba!, Haiti].

Sect. 4. DIECTOMIS, *P. B.*—*Fertile spikelets with* 2 *awns: one awn straight from the second exterior glume, the other geniculated from the fourth, which has a palea. Pedicellate spikelets* ♂: *their exterior glumes awned, the interior awnless. Axis with bearded, separating joints.*

156. **A. fastigiatus,** *Sw.* Erect, glabrous; ligule oblong-lanceolate; *spikes* long-peduncled, *in a lax bracteate corymb: joints and pedicels clavate, the latter obliquely excavated at the summit: beard distichous,* decurrent at the base; lowest glume of the fertile spikelet compressed-keeled, ciliate: geniculated awn long-exserted; ♂ glumes unequal, the lowest larger, striate, flattish.—*Kth. Nov. Gen. t.* 64.—2′–4′ high; spikes 1″–2″, larger ♂ glumes 4‴ long: fertile spikelet half-spathulate, 2‴, its straight awn about 6‴, the other 1″ long.—HAB. Jamaica!, *Al., Wullschl.,* in sandy hills; [Mexico to Brazil!].

50. ANATHERUM, *P. B.*

Character of *Andropogon,* but exterior glumes chartaceous-membranaceous, and awn of the fertile flower straight, terminal or wanting.—Peduncles *bracteate:* pedicels *and* rhachis *long-bearded by spreading wool:* lateral spikelets *nearly reduced to the pedicel, fertile usually monandrous:* exterior glumes *narrow, few-nerved, awnless.*

This genus from the wool of the spikelets and the submembranaceous texture of the glumes approaches *Saccharum* and *Erianthus,* which are distinguished by the artificial character of the spikelets all complete.

157. **A. domingense,** *R. S.* Cæspitose, slender, few-branched; *spikes* 2–4, *digitate: fourth glume* devoid of a palea, *awnless, or the awn* hair-like, *included or shortly exserted.*—*Sl. t.* 68. *f.* 2.—A. virginicum, *Spreng.* (Andropogon, *L. ex parte:* Gronovius's synonym belongs to the allied, but long-awned *A. vaginatus,* Ell.) *Andropogon leucostachyus,* Kth.—1′–2′ high; leaves 1‴ broad, glabrous, rarely pilose; spikes 6‴–12‴, spikelets 1½‴, pedicels 2‴, wool 4‴–6‴ long.—HAB. Jamaica!, *Pd.,* in savannahs, Westmoreland: Trinidad!, *Lockh., Cr.,* in savannahs; [Haiti and Mexico, to Brazil!].

158. **A. bicorne,** *P. B.* (*Sieb. Mart.* 40). Stout, glabrous; *spikes in a large, compact, fastigiate panicle: spikelets awnless;* fourth glume devoid of a palea.—*Sl. t.* 15.—Andropogon, *L.* Saccharum, *Gr.*—4′–6′ high; leaves 2‴ broad; panicle 1′, spikelets 1¼‴, wool 4‴ long.—HAB. Jamaica (*L.*); S. Kitts!; Antigua!, *Wullschl.,* S. Vincent!, *Guild.;* [Cuba! and Mexico! to Brazil!, in wet places and fields].

159. **A. macrurum,** *Gr.* Stout, pilose or ciliate along the sheaths; *spikes in a large compact panicle:* spikelets awned: *awn* 4–5 *times as long as the glumes;* fourth glume devoid of a palea.—Andropogon, *Mich.*—Habit of the preceding; leaves 2‴ broad; panicle 12″-6″, spikelets 1½‴, wool 4‴–3‴ long.—HAB. Jamaica!, *Al., Wils., Wullschl.,* common; Antigua!, *Wullschl.;* [United States; Cuba!, Haiti].

51. VETIVERIA, *Thouars.*

Character of *Andropogon,* but exterior glumes in both kinds of spikelets cartilaginous, muricate, inner membranaceous glume ciliate, and awn of the fertile flower straight, included or wanting.—Spikes *slender, shortly peduncled, whorled in racemes:* pedicellate spikelets ♂: *no wool;* spinules *thickish at the base, incurved.*

160. **V. arundinacea,** *Gr.* Stout, glabrous; spikelets lanceolate-linear, acuminate; *fourth glume* 2-dentate, *bearing a short included bristle* between its teeth, twice as long as

its palea.—*P. B. Agrost. t.* 22. *f.* 10. *anal.*—Anatherum muricatum, *P. B.* (Andropogon, *Kth. suppl. p.* 416: the first description only). The East India *V. muricata* (*Andropogon,* Retz.), has shorter, bluntish spikelets, and a pointed, awnless fourth glume.—4′–6′ high; panicle 1′ long, somewhat purple; spikes 2″–3″, internodes 2‴–3‴ long, the latter about twice as long as the pedicels; fertile spikelets 2½‴ long, little hairy at the basilar callus, ♂ 2‴ long: spinules 2–3-seriate on the first, 1–2-seriate on the second glume.—Hab. Jamaica!, *Wils.*, in wet places; Trinidad!, *Cr.;* [perhaps introduced from the East Indies].

52. SORGHUM, *Mich.*

Character of *Andropogon,* but exterior glumes of the fertile spikelet cartilaginous, polished, of the sterile (♂ or neutral) chartaceous, inner membranaceous glumes often ciliate, awn of the fertile flower geniculated or abortive.—Spikes *peduncled, paniculate: no wool:* joints of the axis *often wanting.*

161. **S. halepense,** *Pers.* Perennial; *nodes sericeous; leaves lanceolate-linear,* glabrous; panicle erect: branches compound, pedicels pilose, half as long as the sterile spikelet; *spikelets jointed at the base,* fertile elliptical-oblong.—*Host. Gram. Austr.* 1. *t.* 1.—Holcus, *L.*—Leaves 8‴(–10‴)–3‴ broad: spikelets 1½‴–2‴ long. The allied, cultivated *S. giganteum,* Edgew., is much stouter, has broader (1″–2″) leaves, the rich panicle often 2′, and the spikelets 2½‴ long.—Hab. S. Vincent!, *Guild.;* [Cuba to Brazil; Hungary! and Southern Europe! to the Cape! and East Indies!].

The cultivated species (except *S. giganteum*) form a peculiar section of the genus (*Sorghum,* Trin.), distinguished by the spikelets not jointed at the base, and the common axis usually more scabrous. Of these *S. vulgare,* Pers. (Desc. Fl. 8. t. 541), and *S. Dora,* Gr. (*S. saccharatum,* Host. Gram. Austr. 4. t. 4., non Pers., which is *Holcus,* Ard. t. 4. f. 2), occur in the West Indian collections: *the former* has leaves 1″–2″ broad, a compact panicle, the fertile spikelets oval-roundish, and very short pedicels; *the latter:* a low stem, leaves 6‴–10‴ broad, the branches of the panicle erect, in distant whorls, the fertile spikelets elliptical, villous, and the pedicels about one-third as long as their spikelets.

53. ISCHÆMOPOGON, *Gr.*

Spikelets homogamous: the bearded joints distant from their base. *Two inferior sterile glumes* chartaceous, awnless, third ♂ with a palea, awnless, fourth ♀ with a palea, awned: awn twisted.—Perennial grasses; spiciform racemes *digitate:* bracts *at the joints spreading:* spikelets *geminate-ternate, pedicellate:* pedicels *inserted distantly from the joints of the axis, and the longer in each pair jointed again above its middle.*

This genus (comprising *Spodiopogon arcuatus,* Ns.) approaches *Phacelurus,* by the longer pedicels jointed above the middle: it is distinguished from *Spodiopogon* chiefly by the spikelets not being jointed at their base, and from *Ischæmum,* Trin., by homogamous spikelets.

162. **I. latifolius,** *Gr.* Erect, glabrous: leaves lanceolate-acuminate; racemes 6–14: internodes and pedicels cylindrical.—*Kth. Rév. t.* 99.—Ischæmum, *Kth.* Spodiopogon, *Tr.* Andropogon pilosus, *Sieb. Mart.* 41.—2′–4′ high; leaves 4‴–12‴ broad; racemes 3″–1″ long: spikelets oblong-lanceolate, purplish, 2‴ long, about as long as the beard; exserted awn 2‴–5‴ long.—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad; *Sieb. Tr.* 12, *Cr.;* [French islands! and Mexico! to equatorial Brazil!].

54. ERIOCHRYSIS, *P. B.*

Spikelets homogamous, awnless: joints of the axis bearded, separating. *Two inferior sterile glumes* chartaceous-cartilaginous, hairy, third devoid of a palea, neutral, fourth fertile.—Perennial grasses; spikelets *paniculate, most shortly pedicellate, geminate or fascicled.*

163. **E. cayennensis,** *P. B.* Erect; nodes bearded; *leaves* linear, *densely villous;* panicle compact, glomerate-oblong: wool brown-yellow; *flower devoid of a palea.*—3′–4′ high; panicle 3″–4″, woolly spikelets 1‴ long.—Hab. Trinidad!, *Pd., Cr.*, in savannahs; [Mexico! to Brazil!].

55. ERIANTHUS, *Rich.*

Spikelets geminate along a jointed axis, homogamous, supported by wool: one sessile, one pedicellate. *Two inferior sterile glumes* chartaceous-membranaceous, third devoid of a palea, neutral, fourth (the fertile) awned, with a palea: awn terminal, usually straight.—Perennial grasses; spikelets *paniculate.*

164. **E. jamaicensis,** *Gr.* "Leaves linear-acuminate; panicle linear-lanceolate: joints and pedicels villous; exterior glumes acuminate, about as long as the wool, inferior villous at the margin; awn as long as its glume."—Saccharum, *Trin.*—Apparently allied to *E. saccharoides,* Mich., which has a longer awn.—Hab. Jamaica (*Trin.*).

56*. SACCHARUM, *L.*

Character of *Erianthus,* but spikelets awnless, exterior glumes membranaceous, and glume of the flower more or less abortive.—Stout, paniculate grasses; wool *exceeding the spikelet.*

165*. **S. officinarum,** *L.* Panicle large, pyramidal: common axis sulcate; joints and pedicels glabrous below the wool; exterior glumes pointed, one-half to one-third as long as the wool; palea of the flower half as long as the third glume; stamens 3.—*Tuss. Fl.* 1. *t.* 23–25. *Desc. Fl.* 4. *t.* 283; 7. *t.* 493.—S. violaceum, *Tuss.*: a form with the midrib of the second glume suppressed.—Hab. Naturalized *e.g.* in Antigua!, and cultivated; [introduced from the East Indies].

57. IMPERATA, *Cyr.*

Spikelets homogamous, awnless, geminate, unequally pedicellate in each pair, jointed and supported by wool at the base: axis not jointed. *Two inferior sterile glumes* membranaceous: third included, devoid of a palea, neutral. *Glume* of the flower and its palea minute (replacing the wanting lodiculæ). *Stamens* 1–2. *Style* 2-fid: stigmas exserted from the summit of the spikelet.—Erect, perennial grasses; panicle *contracted:* wool *white, exceeding the narrow, hairy spikelets.*

166. **I. caudata,** *Trin.* Nodes glabrous; *leaves lanceolate-linear, flattish: ligule long-ciliate;* panicle long, at length somewhat loosened: wool 3–4 times as long as the spikelet; *flower* 1-*androus.*—*Sl. t.* 70. *f.* 1.—Saccharum, *May. Esseq.!* S. contractum, *Poit., Led.* (*non Kth.*), S. dubium, *Kth.*—2′–6′ high; leaves 4‴–5‴ broad; panicle about 1′ long, 1″ broad in the expanded state: wool 3‴–4‴ long.—Hab. Jamaica!, *Pd., Wils.;* Trinidad!, *Sieb. Tr.* 10, *Cr.;* [French islands; Guiana!, Brazil].

58*. COIX, L.

Spikelets monœcious, ♂ superior, 2-flowered, ♀ little exserted from a bony involucre. *Sterile glumes* in ♀ 3, third devoid of a palea, membranaceous. *Style* 2-partite.—Erect, branched grasses; leaves *lanceolate;* cymes *peduncled, axillary and terminal:* ♀ spikelets *solitary.*

167*. **C. Lacryma,** *L.* Annual; stem half-terete above; involucre subglobose, white-shining.—Hab. Naturalized in Jamaica!, *March, Wullschl.;* S. Kitts!; [introduced from the East Indies].

59*. ZEA, *L.*

Spikelets monœcious, ♂ geminate, 2-flowered, in terminal, compound spikes, ♀ approximate along an axillary spadix, which is enclosed by several spathes. *Style* simple, 2-dentate. —A stout, annual grass; leaves *oblong-lanceolate.*

168*. **Z. Mays,** *L.*—*Desc. Fl.* 8. *t.* 544.—Hab. Naturalized, *e.g.* Antigua!, and cultivated; [America, but original habitat unknown].

CXXXVI. CYPERACEÆ.

Flowers in spikelets, naked: the sexual organs often supported by bristles or scales, enclosed by glumaceous bracts (glumes): bracts usually single at each flower. *Stamens* often 3, hypogynous. *Ovary* simple: ovule single, erect: style 2–3-cleft. *Pericarp* utricular. *Embryo* trochleate, included within the summit of amylaceous albumen.—Habit of grasses, *but stem solid, devoid of tumid nodes*, leaves *tristichous, and their sheath mostly closed.*

Tribe I. *CYPEREÆ.—Flowers distichous, hermaphrodite.*

1. CYPERUS, *L.*

Spikelets many–few-flowered: 1–2 lowest glumes empty: rhachis furrowed, often winged at each internode by the decurrent, at length lacerate part of the glumes. *Achenium* beakless.—Spikelets *clustered or spikate, rarely solitary: the clusters often in a simple or compound, terminal, involucrate umbel.*

The description of the form of the glumes regards their conduplicate, keeled state, viz. one-half of their entire breadth.

Sect. 1. Pycreus, *P. B.—Spikelets compound: furrows narrowly winged: glumes keeled. Style 2-cleft. Achenium laterally compressed.*

1. **C. polystachyus,** *Rottb.* Rhizoma short; stem 3-angular, glabrous; *umbel* usually *contracted:* involucre long, 3–6-leaved; *spikelets* densely clustered, *lanceolate, pointed*, usually *pale*, many(–8)-flowered; *glumes elliptical-lanceolate, bluntish, 3-nerved at the keel* with the midrib excurrent, 4–3 times as long as the furrow, twice as long as the oblong achenium; stamens 2–1.—*Rottb. Descr. t.* 11. *f.* 1.—Stem 1′ (8″–2′) high, naked above, usually exceeding the flat leaves; glumes 1‴ long.—Hab. Jamaica!, *Pd.*, in moist places; Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [all tropical countries to Australia!, the Cape!, Algeria!, and the hot springs of Ischia!].

2. **C. variegatus,** *Kth.* Rhizoma short; stem 3-angular, glabrous: clusters in an unequal or contracted umbel: involucre long, 3-leaved; *spikelets ovate-oblong or oblong-lanceolate, bluntish*, either pale or blackish, 14–8(–" 24 ")-flowered; *glumes half-ovate-oblong, blunt*, few-nerved at the keel, 4–5 times as long as the furrow, 2½ times as long as the elliptical achenium; stamens 2(–1).—C. melanostachyus, *Kth.:* the blackish, C. flavus, *Prl.:* the yellowish-flowered form, of which the latter is our Jamaica plant, while the former exists in Swartz's West Indian herbarium.—6″–18″ high; glumes 1‴ long.—Hab. Jamaica!, *Pd.*, in the plains of Westmoreland; [Haiti! Mexico to Costarica!, New Granada].

Sect. 2. Juncellus.—*Spikelets compressed: glumes keeled: furrows narrowly margined. Style 2-cleft. Achenium compressed from the back.*

3. **C. mucronatus,** *Rottb.* Rhizoma creeping; stem cylindrical below, glabrous, 1-leaved (or naked); *cluster single: involucre* unequally *2-rayed: the longer ray erect*, the inferior shorter than the cluster; *spikelets oblong or ovate, bluntish, pale*, many(–6)-flowered; *glumes half-ovate, blunt*, 3–4 times as long as the furrow, twice as long as the oval achenium; stamens 3.—*Rottb. Descr. t.* 8. *f.* 4.—1½′–6″ high; leaves narrow; glumes 1‴ long.—Hab. Antigua!, *Wullschl.;* [all tropical countries to Egypt and Pantellaria!].

Sect. 3. Eucyperus, *Liebm.—Spikelets compressed or subcompressed: glumes keeled: rhachis persistent. Style 3-cleft. Achenium 3-angular.*

* *Root annual.*

4. **C. compressus,** *L.* Annual; stem 3-angular, glabrous; clusters umbellate (or single): involucre long, 3–6-leaved; *spikelets* flat-compressed, *oblong-linear, pointed, pale*, many(–6)-flowered; glumes *half-ovate-oblong, cuspidate with a spreading-erect point, sharply keeled, many-nerved*, winged, 4–5 times as long as the furrow, thrice as long as the obovate, 3-quetrous, smooth achenium; stamens 3.—*Sl. t.* 76. *f.* 1. *Rottb. Descr. t.* 9. *f.* 3.—4″–12″ high; leaves narrow, flat, rarely setaceous; glumes 1½‴ long.—Hab. Jamaica!,

Pd., in wet places; Dominica!, *Imr.*; Trinidad!, *Sch.*, *Lockh.*; [southern United States! to Brazil!; trop. Africa! and Asia!].

5. **C. acuminatus,** *Tour.* Annual; stem low, 3-angular, glabrous; clusters single or several: involucre long, 3–4-leaved; *spikelets ovate or oblong, bluntish, pale,* many–12-flowered; *glumes ovate-lanceolate, acute* with the short point slightly spreading or recurved, 1–3-*nerved at the keel, approximate,* twice as long as the elliptical, compressed-3-angular, pointed achenium: furrows narrowly winged; stamen 1.—3″–8″(–12″) high: the stem often only as long as the involucre; leaves flat; glumes ¾‴ long.—Hab. Jamaica!, *M'Nab*; [Illinois! to Cuba!].

6. **C. tenuis,** *Sw.* Annual; stem slender or low, filiform, glabrous; clusters single or several: involucre of 3(–6) setaceous-linear leaves; *spikelets linear, at length reflexed, brown,* 6–4-*flowered; glumes half-ovate, pointed* with the short point slightly spreading, 9–7-*nerved, about twice as long as the winged furrow,* half as long again as the obliquely elliptical, 3-gonal, slightly dotted achenium; stamens 3–2.—4″–8″ (2″–12″) high; leaves setaceous-linear, cæspitose; glumes ¾‴ long.—Hab. Jamaica!, *Pd.*, *March,* in wet places Westmoreland.

*** Perennial species.*

† Furrows wingless or narrowly winged.

7. **C. confertus,** *Sw.!* Rhizoma short; stem obtuse-angled below, glabrous, about as long as the leaves; clusters unequally umbellate, rarely single: involucre long, 3–6-leaved; spikelets oblong, greenish or greenish-brown, 18–4-flowered; *glumes* spreading, *elliptical-lanceolate, recurved acuminate,* 11–7-*nerved,* 6–4 times as long as the naked furrow, twice as long as the elliptical-oblong, 3-quetrous, pointed achenium; stamens 3.—Habit of *C. compressus,* L., but stouter, 1′–2′ high; leaves narrow, usually channelled; glumes variable in size, 1¼‴–2‴ long.—Hab. Jamaica!, *Sw.*, *Al.*, *March,* in wet pastures; Antigua!, *Wullschl.*, [S. Croix!; Venezeula].

8. **C. ochraceus,** *V.* Rhizoma short; stem 3-angular, glabrous; clusters unequally umbellate, (or "single"): involucre long, 5–9-leaved; spikelets oblong, bluntish, yellowish, many–8-flowered; *glumes* spreading, *subulate with a bluntish, incurved-erect point, auricled at the base, obscurely* 3–1-*nerved,* 4 times as long as the naked furrow, half as long again as the elliptical, obtuse-angled, pointed, dotted achenium; stamen 1.—*Sl. t.* 75. *f.* 1.—*C. elegans,* L. (non V.), from Sloane's figure, while Linnæus's description refers more to the preceding.—3′–1′ high, flat-leaved; glumes ¾‴ long, at length dotted.—Hab. Jamaica!, *Pd.*, *Al.*, *M'Nab, Wils.*, in wet places; Antigua!, *Wullschl.*; Trinidad!, *Sch.*; [Cuba! to French islands! Galapagos!].

9. **C. viscosus,** *Ait.* Rhizoma short; stem obtuse-angled below, scabrous, viscous; *leaves convolute-filiform*; clusters unequally umbellate: involucre long, 3–5-leaved; spikelets ovate, blunt, greenish-brown, 12–4-flowered; *glumes elliptical, mucronate with a short, spreading point,* 11–7-*nerved, approximate,* twice as long as the obovate, 3-gonal, smooth achenium: furrows naked; stamens 2.—*Rottb. Descr. t.* 6. *f.* 4.—C. elegans, *Rottb.*—3′–2′ high; glumes 1‴ long.—Hab. Jamaica!, *Macf.*; Antigua!, *Nichols, Wullschl.*; Dominica!, *Imr.*; Trinidad!; [Cuba! to French islands!, *Sieb. Mart.* 12; Mexico to Venezuela].

10. **C. laxus,** *Lam.* Rhizoma short; stem 3-angular, glabrous; *leaves broadly linear, flat; clusters in a compound umbel:* involucre long, 6–12-leaved; spikelets oblong, bluntish, greenish, or greenish-brown, 16–6-flowered; *glumes roundish-elliptical, mucronate with a greenish, spreading point,* 5–7-*nerved,* with a broadly membranaceous margin, thrice as long as the naked furrow, half as long again as the elliptical, 3-quetrous, smooth achenium; stamens 3–2.—C. elegans, *V.*, *Mey.!* (*non L.*).—3′–2′ high; leaves 4‴–2‴ broad; glumes ¾‴ long.—Hab. Jamaica!, *Al.*, *M'Nab, Wullschl., March*; Trinidad!, *Sieb. Tr.* 9; [Panama!, Venezuela!, Guiana!, Brazil].

11. **C. simplex,** *Kth.* Rhizoma short; stem 3-angular, glabrous, usually shorter than or as long as the involucre; *leaves flat; clusters of* 3–5 (–1) *diverging spikelets in a simple, lax umbel:* involucre long, 5–12-leaved; spikelets oblong-linear, tapering above, greenish-brown, many(–8-)flowered; *glumes oblong-lanceolate, acuminate with a bluntish, erect point,* 7–11-*nerved near the middle,* 4 times as long as the narrowly winged furrow,

thrice as long as the truncate-obovate, subglobose-3-gonal, dotted achenium; stamen 1.—*Prsl. Reliq. Hænk.* 1. *t.* 31. *f.* 1.—8″–12″ high (the long rays up the umbel included); leaves 2‴ broad; glumes 1‴ long.—HAB. Trinidad!, *Pd.*, *Lockh.;* [Panama and Venezuela! to Uruguay].

12. **C. surinamensis,** *Rottb.* Rhizoma short; stem 3-angular, scabrous; *leaves flat;* clusters dense, unequally umbellate: involucre long, 6–3-leaved; spikelets oblong, or ovate-oblong, blunt, yellowish, many–10-flowered; *glumes shortly ovate-oblong, bluntish, 3-nerved,* 4–5 times as long as the naked furrow, twice as long as the elliptical-oblong, 3-gonal, pointed, dotted achenium; stamen 1.—*Rottb. Descr. t.* 6. *f.* 5.—C. vegetus, *Mey. Esseq.! (non W.).*—1′–2′ high; leaves $1\frac{1}{2}$‴–1‴ broad; glumes $\frac{1}{2}$‴ long.—HAB. Trinidad!, *Sieb. Tr.* 8; [Portorico and Mexico to Brazil!].

13. **C. Luzulæ,** *Rottb.* Perennial; stem 3-angular, glabrous; *leaves* glaucous, *flat; clusters* very dense, *subglobose-ovate,* in a short umbel: involucre very long, 6–12-leaved; spikelets ovate, blunt, pale, 12–4-flowered; *glumes oblong-lanceolate, bluntish, 3-nerved,* approximate, twice as long as the elliptical-oblong, 3-gonal, pointed, dotted achenium: furrows naked; stamen 1.—*Rottb. Descr. t.* 13. *f.* 2.—C. trinitatis, *Steud.;*—8″–$2\frac{1}{2}$″ high; glumes $\frac{3}{4}$‴ long.—HAB. Dominica!; Trinidad!, *Sieb. Tr.* 1; [Carolina!; Panama!, Guiana!, Brazil!].

14. **C. Haspan,** *L.* Rhizoma short; stem 3-angular above, glabrous; *leaves none or few and short;* clusters of 3–7, diverging spikelets in a simple or compound umbel: involucre short, 2-leaved; spikelets oblong-linear, bluntish, brown, many–8-flowered; *glumes oblong-linear, mucronate with a short, erect point, 3-nerved,* 4 times as long as the naked furrow, and as the minute, ovoid-3-gonal, dotted achenium; stamens 3.—*Rottb. Descr. t.* 6. *f.* 2; *t.* 17. *f.* 3: the latter is the common, aphyllous form, in both figures the involucre is more than usually developed.—C. autumnalis, *V.*—8″–3′ high, very variable; glumes $\frac{3}{4}$‴ long.—HAB. Jamaica!, *Al.*, *Wullschl.;* [southern United States! to Brazil!; trop. Asia! and Africa! to the Cape].

†† *Furrows winged: wing membranaceous, at length separating from its glume, and more tardily from the rhachis.*

15. **C. articulatus,** *L.* Rhizoma stoloniferous, knobbed; *stem cylindrical, transversely partitioned, aphyllous,* glabrous; clusters of spreading spikelets in a simple, or compound umbel: involucre reduced, scaly; spikelets linear, acuminate, brown, many-flowered; *glumes oblong-lanceolate, bluntish, 7–5-nerved,* 3–4 times as long as the winged furrow and as the obovate-oblong, 3-gonal achenium; stamens 3.—*Sl. t.* 81. *f.* 1.—2′–4′ high, variable in the validity of the stem, the colour of the glumes, and (like all other species) in the size of the inflorescence and spikelets; glumes $1\frac{1}{4}$‴ long.—HAB. Jamaica!, *March;* Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [all tropical countries to Egypt!, the Cape, and southern United States].

16. **C. trichodes,** *Gr.* (*n. sp.*) Rhizoma creeping, knobbed; *stem* low, *setaceous,* glabrous, flexuose, exceeding the recurved, setaceous leaves; *spikelet single, lateral,* linear, acuminate, brown, 16–4-flowered; *glumes ovate-lanceolate, bluntish, 9–5-nerved,* thrice as long as the winged furrow, twice as long as the obliquely obovate-oblong, 3-gonal achenium; stamens 3.—Habit of *Scirpus setaceus,* but all glumes regularly distichous; stem almost hair-like, 4″–8″ long, its summit (replacing, as in *C. mucronatus,* the involucre) 1″–2″ long beyond the spikelet; leaves $\frac{1}{2}$″–3″ long in dense tufts along the slender, shortly-branched rhizoma; spikelet 4‴–2‴ long, $\frac{1}{2}$‴–$\frac{1}{3}$‴ broad, compressed: 2 lowest glumes empty, or the lowest transformed into a short, setaceous bract: wings of the furrow about as broad as the rhachis, early loose, at length disappearing; glumes $\frac{1}{2}$‴–$\frac{3}{4}$‴ long: keel greenish, 3-nerved; stamens included; style filiform, 3-fid above the middle.—HAB. Jamaica!, *Wullschl.*, Manchester, at Fairfield.

17. **C. rotundus,** *L.* *Rhizoma* stoloniferous, *bearing ovoid tubers;* stem 3-angular, glabrous; leaves flat; clusters or short spikes of spreading spikelets unequally umbellate: involucre 3–5-leaved; *spikelets* linear, acuminate, *brown,* many-flowered; *glumes half-ovate, bluntish, few-nerved at the green keel,* 4–5 times as long as the winged furrow, thrice as long as the obovate-oblong, 3-gonal achenium; stamens 3.—*Rottb. Descr. t.* 14.

f. 2.—C. hexastachyos, *Rottb.* (*non Sw.*) C. Hydra, *V.* C. præmorsus, *Böckeler.* C. sphacelatus, *Sieb. Mixt.* 359 (*non Rottb.*). C. olivaris, *Turg.*—6″–12″ (–1½′) high; glumes 1¼‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, *March*, a troublesome weed, said to be introduced; S. Kitts!, *Els.*, Antigua!, *Wullschl.*; Trinidad!, *Sieb.*; [United States! to Guiana!, and all tropical and warmer temperate countries of the old world].

18. **C. esculentus,** *L.* *Rhizoma* stoloniferous, *bearing subglobose tubers;* stem 3-angular, glabrous; leaves flat; clusters of spreading spikelets unequally umbellate: involucre 3–5-leaved; *spikelets* linear, *pale-brown, or straw-coloured,* many(–6)-flowered; *glumes half-ovate-oblong, blunt, 7-nerved,* 3–4 times as long as the winged furrow, twice as long as the obovate-oblong, 3-gonal achenium; stamens 3.—C. aureus, *Ten.* C. repens, *Ell.* C. phymatodes, *Mühl.* C. gracilescens, *R. S.*—1′–2′ high; glumes 1‴ long.—HAB. Jamaica!, *March;* [all tropical countries to Italy!, the Cape, and United States!].

19. **C. brunneus,** *Sw.* Rhizoma short; stem 3-angular, glabrous; leaves flat, keeled, glaucous; clusters or spikes of many diverging spikelets in a simple, or compound, contracted, or unequal umbel: involucre long, 3–6-leaved; *spikelets* lanceolate-linear, biconvex, *rusty-brown,* 12–3-flowered; *glumes half-ovate, bluntish, 9–11-nerved,* thrice as long as the winged furrow, twice as long as the elliptical-oblong, 3-gonal achenium; stamens 3. —*Sl. t.* 74. *f.* 2, 3 ?.—C. insignis, *Kth.* (*ex Sieb. Trin.* 7). C. purpurascens, *V.:* a broad-leaved form with compressed umbels. C. planifolius, *Rich.* (*ex descr.*).—1′–4′ high; leaves 3‴–6‴ broad; glumes 1¼‴ long.—HAB. Jamaica!, *Pd.*, on the sandy seacoast; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb.;* [Cuba! to Guadeloupe!].

20. **C. sphacelatus,** *Rottb.* Rhizoma short; stem 3-angular, glabrous: one side channelled below; leaves flat; clusters or spikes of spreading spikelets unequally umbellate: involucre long, 3–6-leaved; *spikelets* linear, tapering above, many-flowered, *greenish,* mostly *with an oblong, purple blotch along the margin; glumes half-ovate-oblong, bluntish with a minute point, 5–3-nerved,* 4 times as long as the winged furrow, 2½ times as long as the elliptical, 3-quetrous achenium; stamens 3.—C. hexastachyos, *Sw.* (*non Rottb.*) C. Balbisii, *Kth.*—8″–2′ high; glumes 1¼‴ long.—HAB. Jamaica!, *Al.*, *M'Nab;* S. Kitts!, *Els.*, a noxious weed, Antigua!, *Wullschl.*, Dominica!, *Imr.;* [Haiti to Brazil!].

21. **C. distans,** *L.*, *Sw.* Rhizoma short; stem 3-angular, glabrous; leaves flat; spikes of spreading spikelets in a large compound (or simple) umbel: involucre long, 8–5-leaved; *spikelets* linear, 16–8-flowered, *brown, at length pale; glumes distant, oblong, bluntish, 5–3-nerved* at the convex keel, at length spreading, *twice as long as the winged furrow,* ¼ as long again as the oblong-lanceolate, 3-gonal achenium; stamens 3.—*Rottb. Descr. t.* 10.—C. elatus, *Rottb.*—Stout, 1½′–3′ high; glumes ¾‴ long.—HAB. Antigua!, *Wullschl.;* [S. Thomas to Brazil; trop. Asia!, Australia, and Africa to the Cape].

Sect. 4. DICLIDIUM, Schrad.—*Spikelets subcylindrical: glumes rounded on the back: rhachis jointed, its furrows deep, including or embracing the 3-angular achenium by its persistent wing or margin. Style 3-cleft.*

* *Spikelets in a single, lateral cluster.*

22. **C. filiformis,** *Sw.* Rhizoma short; stem slender, striate, 3-angular above, glabrous; leaves setaceous-linear, or most abortive; *cluster single,* exceeded by one, erect leaf of the 3–1-leaved involucre; *spikelets* linear, flexuose, 8–4-*flowered, pale, or pale-brown; glumes oblong, bluntish, obsoletely many-nerved,* twice as long as the furrow, half as long again as the lanceolate-oblong, 3-gonal, dotted achenium: furrows convex on the back; wings membranaceous; stamens 3.—C. havanensis, *W.*—½′–3′ high; glumes 1⅓‴ long.—HAB. Jamaica!, *Pd.*, *Al.*, *March*, *Wullschl.*, on grassy hills; [Cuba!, Haiti].

** *Spikes of approximate spikelets, in a simple or compound umbel.*

23. **C. odoratus,** *L.* Rhizoma short; stem stout, 3-quetrous, glabrous; leaves broadly linear; *spikes in a compound umbel:* involucre long, 6–12-leaved; *spikelets* linear, 12–7-flowered, *pale; glumes oblong-lanceolate, bluntish,* striate, *twice as long as the furrow and as the lanceolate-oblong,* convex–3-gonal, *included achenium:* furrows convex on the back: wings chartaceous: stamens 3.—*Sl. t.* 74. *f.* 1.—C. Sanctæ Crucis, *Liebm.*—2′–several feet high; glumes 1½‴ long, 2 lowest empty ones broad at the base;

achenium pale.—HAB. Jamaica!, *Al.*; Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Cuba to Guiana!].

24. **C. densiflorus,** *Mey.!* Rhizoma short; stem stout, 3-quetrous, glabrous; leaves linear, flat; *spikes in a compound umbel:* involucre 6–12-leaved; *spikelets* linear, 18–8-flowered, *pale; glumes oblong-lanceolate, bluntish,* striate, *twice as long as the furrow, half as long again as the lanceolate-oblong,* convex–3-gonal, *shortly exserted achenium:* furrows convex on the back: wings chartaceous; stamens 3.—C. ferax, *Rich. sec. Ns.* (non C. ferox, *V.*). Diclidium ferox, *Schrad.*—Habit exactly of the preceding, and variable, but glumes 1‴ long, the lowest two empty ones often setaceous, and achenium exserted from the wings, at length brown, dotted.—HAB. Jamaica!, *Wils.*; Montserrat; Trinidad!, *Cr.*; [Guatemala!, Guiana!, Brazil!].

25. **C. flexuosus,** *V.* Rhizoma short; stem 3-quetrous above, glabrous; leaves linear, flat; *spikes usually* 3–5-*nate in a large, unequal umbel:* involucre 6–12-leaved; *spikelets* linear, 6–3-*flowered,* diverging, *pale; glumes oblong-lanceolate, bluntish, thrice as long as the furrow, twice as long as the lanceolate-oblong,* convex–3-gonal, *shortly exserted achenium:* furrows convex on the back: wings chartaceous; stamens 3.—*Rudg. Guian. t.* 20. —C. stellatus, *Rudg.*—Habit of the preceding, but spikelets shorter (3‴–4‴ long), less approximate. 2′–4′ high; glumes 1¼‴ long; achenium pale.—HAB. Jamaica!, *March, Wils.*; [Cuba! to Brazil!, *Pœpp.* 3083].

26. **C. Vahlii,** *Steud.* Rhizoma short; stem 3-angular, glabrous: one side channelled; leaves linear, flat; *spikes usually* 3–5-*nate in a simple umbel:* involucre 5–8-leaved; *spikelets* densely approximate, linear, 12–4-flowered, *purple-brown; glumes oblong, blunt,* striate on the green bark, *twice as long as the furrow and as the obovate-oblong, oblique,* 3-*gonal, included achenium:* furrows convex on the back: *wings chartaceous.*—Diclidium, *Ns.* C. ferox, *V.* (non C. ferax, *Rich.*).—1′–2′ high, approaching *C. brunneus,* Sw., in habit; glumes 1½‴ long; achenium pale, dotted.—HAB. Jamaica!, *Wils.*; Antigua!, *Wullschl.*; [Cuba!, French islands!].

27. **C. Ehrenbergii,** *Kth.* Rhizoma short; stem 3-angular, glabrous: one side channelled; leaves linear, flat; *spikes* usually *ternate in a simple umbel:* involucre long, 3–8-leaved; *spikelets* approximate, diverging, linear, 10–6-flowered, *pale,* or *rusty-brown; glumes oblong-lanceolate, bluntish,* 5-nerved at the greenish back, *thrice as long as the furrow, half as long again as the obovate-oblong,* convex–3-gonal, *more than half exserted achenium:* furrows convex on the back: *wings membranaceous;* stamens 3.—C. strigosus, *Schlecht.* (*non L.*).—Rhachis less distinctly jointed than in the other *Diclidia,* but habit and glumes of *C. odoratus.*—1′–2′ high; glumes 1‴ long; achenium dotted.—HAB. Jamaica!, *Wullschl.*; [Cuba! to Guiana!, *Kegel,* 95].

Sect. 5. PAPYRUS, *Pet. Thouars.*—*Spikelets subcompressed with keeled glumes: rhachis persistent, its wings chartaceous, early separated and forming nearly free scales, adhering only at the base. Style 3-cleft. Achenium 3-angular. Spikelets spikate.*

28. **C. elatus,** *L.* (*non Rottb.*). Perennial; stem high, 3-angular, glabrous; clusters of spikes in a large umbel, supported by long involucels: involucre very long, many-leaved; *spikelets* spikate, spreading, *lanceolate-linear,* 10–3-*flowered, pale; glumes oblong, mucronulate-obtusate, few-nerved at the keel,* thrice as long as the furrow and as the lanceolate-acuminate scales; stamens 3.—*Sl. t.* 8.—Papyrus, *Ns.* C. Neesii, *Kth.* C. jubæflorus, *Rudg.* (*Guian. t.* 21)?: a form with shorter involucels.—6′–9′ high; umbel compound, or simple: involucral leaves linear-acuminate, suberect, often 1′–1½′ long; rays of the umbel 3″–6″, spikes 1″–1½″ long, the latter exceeded by or exceeding the involucel; glumes ½‴ long; anthers mucronate.—HAB. Jamaica!, *Sw.*, *Wils.*, *March,* along lagoons; Barbadoes; Trinidad!, *Cr.*; [Guiana; East Indies!].

Sect. 6. MARISCUS. *V.*—*Spikelets few-flowered, subcompressed with keeled glumes: rhachis jointed at the base: 2 lowest empty glumes persistent below the joint. Style 3-cleft. Achenium 3-angular.*—Spikelets spikate or capitate.

* *Spikes umbellate: spikelets turned to all sides.*

29. **C. ligularis,** *L.* Rhizoma short; stem stout, 3-angular, roughish; leaves broadly

linear, glaucous; *heads oblong, blunt, 3–7-nately clustered,* in an unequal umbel, lateral shorter, diverging: involucre long, 5–8-leaved; *spikelets densely approximate-imbricated,* rusty or pale, lanceolate, 3–5-flowered, *inferior recurved; glumes oblong, bluntish, many-nerved,* thrice as long as the furrow, twice as long as the elliptical-3-gonal achenium: wings of the furrow broad, at length disappearing; stamens 3.—*Sl. t.* 9. *Rottb. Descr. t.* 11. *f.* 2.—Mariscus coriaceus, *Mey. Esseq.* !—2′–4′ high; terminal heads 8‴–10‴, fertile glumes about 1‴ long.—Hab. Jamaica!, *Al. Wils.*, *March*; Antigua!, *Wullschl.*, Dominica!, *Imr.*, Barbadoes; [Cuba! and Mexico to Brazil!; trop. Africa to the Cape].

30. **C. Meyenianus,** *Kth.* Rhizoma short; stem 3-angular, glabrous; leaves linear, flat; *spikes slender,* umbellate: involucre long, 5–12-leaved; *spikelets spreading, distinct, pale or brownish-variegated, linear,* 5–3-flowered; *glumes oblong-lanceolate, bluntish, many-nerved,* twice as long as the furrow, half as long again as the oblong-3-gonal achenium: furrows narrowly winged; stamens 3.—Mariscus, *Ns. β*!—1′–1½′ high; spikes 1″–1½″, glumes 1¼‴–1½‴ long.—Hab. Jamaica!, *Wullschl.*; [Venezuela!, Brazil!].

** *Spikes umbellate or clustered: spikelets subdistichous.*

31. **C. anceps,** *Liebm.* Rhizoma short; stem slender, 3-angular, glabrous: one side channelled; leaves linear, flat; *spikes lax, of* 16–30 diverging, *somewhat distant, subdistichous spikelets,* unequally umbellate, interior sessile: involucre 4–8-leaved: exterior leaflets long, spreading; *spikelets lanceolate-linear, rusty-brown,* 5–6-*flowered;* fertile *glumes oblong, bluntish,* 7–9-nerved, thrice as long as the furrow, *half as long again as the elliptical-oblong,* 3-gonal *achenium:* furrows broadly winged: stamens 3.—1′–2′ high; glumes 1‴ long.—Hab. Jamaica!, *Wullschl.*; [Cuba].

32. **C. Mutisii,** *Gr.* Rhizoma short; stem 3-angular, glabrous: one side channelled; leaves linear, flat; *spikes slender, of* 20–40, spreading, *somewhat distant, subdistichous spikelets,* unequally umbellate, interior or all sessile: involucre 4–"9"-leaved: exterior leaflets long; *spikelets lanceolate, rusty-brown,* 2–1½-*flowered;* fertile *glumes oblong, bluntish,* 7-nerved, thrice as long as the furrow, *twice as long as the oblong,* 3-gonal *achenium:* furrows broadly winged; stamens 3.—*Kth. Nov. Gen. t.* 66.—Mariscus, *Kth.* (*non Anders.*). M. Pœppigianus, *Kth.*—1′ high; inferior fertile glumes 1¼‴ long.—Hab. Jamaica!, *Pd.*; [Mexico, Venezuela!, Peru].

33. **C. platystachyus,** *Gr.* (*n. sp.*). Rhizoma short; stem 3-angular, glabrous, tumid at the base: 2 sides channelled; leaves linear, flat, equalling the stem; *spikes broadly oblong, flattish from numerous, horizontally diverging, subdistichous spikelets,* clustered-subsessile: involucre long, 5–8-leaved; *spikelets linear-acuminate, pale* or variegated with reddish lines, 5–3-*flowered;* fertile *glumes lanceolate,* acuminate with a bluntish point, many-nerved, thrice as long as the furrow, half as long again as the oblong, 3-gonal achenium: furrows winged; stamens 3.—Allied to *C. oostachyus,* Ns.!, in which the spikes are shorter and rounded, the glumes longer and twice as long as the achenium. 1′–1½′ high, slender; leaves 1‴–1½‴ broad; spikes about 6, 6‴–10‴, spikelets 3‴–4‴, glumes 1⅓‴ long: the nerves of the latter prominent.—Hab. Jamaica!, *Al.*, *March*, *Wullschl.*

34. **C. cyclostachyus,** *Gr.* (*n. sp.*). Root fibrous; stem slender, 3-angular, glabrous: one side narrow, channelled; leaves linear, flat; *heads orbicular* from spreading and recurved spikelets, unequally umbellate, central subsessile: involucre long, spreading, 4–6-leaved; *spikelets* somewhat distichous, approximate, *lanceolate-linear,* greenish and *pale,* 3–4-*flowered;* fertile *glumes oblong or oblong-lanceolate, bluntish,* 7–9-nerved, thrice as long as the furrow, twice as long as the oblong achenium: furrows narrowly winged; stamens 3; style 3-partite, exserted.—Allied to *C. ovularis,* Torr. 12‴–6‴ high; leaves 1‴–1½‴ broad; heads usually 5, 5‴–6‴ diam.: exterior peduncles 1″–1½″ long; spikelets 20–40, 3‴, glumes 1⅓‴ long.—Hab. Jamaica!, *March.*

*** *Spikes clustered (rarely a few peduncled): spikelets turned to all sides.*

35. **C. flavamariscus,** *Gr.* Rhizoma shortly creeping; stems approximate, tumid at the base, 3-quetrous, glabrous; leaves linear, flat; *spikes shortly oblong-cylindrical, blunt, clustered* (rarely a few peduncled): involucre 3-6-leaved: 1–3 leaflets long, spreading; *spikelets densely approximate, imbricate, lanceolate, yellowish* or variegated with brown, 2–1½-flowered; fertile *glumes ovate-oblong, bluntish,* many-nerved, twice as long as

the furrow and as the obovate-oblong, obtusely 3-quetrous achenium: furrows broadly winged.—Mariscus flavus, *V.* M. elatus, *V.* M. aggregatus, *Sieb. Mart.* 19!—8″–1½′ high, variable; spikes usually 5–7, 6‴(–12‴), glumes 1¼‴ long; spikelets often as long as the lowest sterile glume (the bract).—HAB. Jamaica!, *Al.*; Antigua!, *Wullschl.*; Trinidad!; [Cuba! and Mexico to Brazil!].

2. KYLLINGA, *Rottb.*

Spikelets of a single fertile flower: 2 lower empty, small glumes approximate to the third fertile and the fourth sterile glume. *Achenium* beakless.—Spikelets *densely approximate in single or several clustered (rarely peduncled) heads; involucre* 3(2–4)-*leaved.*

* *Style 3-fid; achenium 3-gonal.*

36. **K. filiformis,** *Sw.* Rhizoma short; stem several-leaved; leaves narrowly linear; heads shortly oblong or subglobose, 3(–4) in a cluster, or single, (or a few peduncled): 2 involucral leaves long, the third usually short (or abortive); *fertile glume* 15–9-*nerved,* pointed, little longer or almost half as long again as the 3-gonal, ellipsoidal, dotted achenium; stamens 3; style 3-fid.—Mariscus, *Spreng.*—6″–1½′ high, very variable in the form, the arrangement, and the colour of the heads, but conform in the approximate, prominent glume-nerves.

α. Heads usually shortly oblong, 3‴–2‴ long, 1–3 sessile, or one of them peduncled; spikelets ovate-lanceolate, spreading, or at length reflexed, olivaceous or yellowish; achenium blackish, little shorter than the glume.

β. Berteroana. Heads shortly oblong, blunt, 3‴–4‴ long, 3–4 in a cluster; spikelets elliptical-lanceolate, diverging, yellowish; achenium yellowish or pale-brown, little exceeding half the glume.—Mariscus filiformis, from Guadeloupe, *Kth.*

γ. capillaris. Heads subglobose, 2‴ diam., solitary or the 2 lateral smaller, densely clustered, rusty or rusty-brown: involucre unequal: the longest leaflet suberect; achenium blackish, little shorter than the glume.—Schœnus capillaris, *Sw.* (Mariscus, *V.*).—HAB. Jamaica!, *March* (*α*), *Wullschl.*; [Cuba!, French islands! (*β*); Mexico! to Guiana!].

** *Style 2-fid; achenium compressed.*

37. **K. triceps,** *Rottb., Sw., Mey.!* *Rhizoma short;* stem several-leaved; leaves linear-acuminate, flat; *heads shortly oblong* or subglobose, 3(–1) clustered, pale; *fertile glume* membranaceous with a green, glabrescent keel, 9–5-*nerved with the lateral nerves delicate,* ovate-lanceolate, pointed, twice as long as the elliptical achenium; stamens 2; style 2-fid.—*Rottb. Descr. t.* 4. *f.* 6.—K. odorata, *V., Ns.*—4″–8″ high; heads 6‴–2‴, spikelets 1¼‴ long.—HAB. Jamaica!, *March;* Antigua!, *Wullschl.*, Dominica!, *Imr.*, in pastures; Trinidad!, *Sch.*; [Panama!, Guiana!, Brazil; East Indies].

38. **K. monocephala,** *Rottb., Sw.* *Rhizoma creeping;* stem several-leaved; leaves linear, flat; *heads single, globose,* pale, involucre 3(–4)-leaved, spreading; *fertile glume* membranaceous with a green keel, 7–9-*nerved with the lateral nerves delicate,* ovate-lanceolate, mucronate, twice as long the elliptical, pale achenium; stamens 1–2(–3); style 2-fid.—*Rottb. Descr. t.* 4. *f.* 4.—K. cruciformis, *Schrad.!* K. sororia, *Kth.* Cyperus kyllingioides, *Sieb. Mart.* 16!—8″–12″ high; heads 3″–2″ diam.; spikelets 1‴ long: mucro of the glumes slightly spreading.—HAB. Jamaica!, *Al., March, Wils.*, common; S. Vincent!, *Guild.*; [Mexico! to Brazil; Pacific islands!, trop. Australia, East Indies!].

39. **K. brevifolia,** *Rottb.* *Rhizoma creeping* (or stoloniferous); stem 1(–several)-leaved, much longer than the leaf; leaves linear, flat; *heads single*(–3), subglobose, pale: involucre spreading; *fertile glume* membranaceous with a green keel, 7–9-*nerved with the lateral nerves prominent,* oblong-lanceolate, recurved-mucronate, more than twice as long as the elliptical achenium; stamens 2–3; style 2-fid.—*Rottb. Descr. t.* 4. *f.* 3.—K. striata, *Schrad.*—2′–1′ high, slender; heads 2‴–3‴ diam.; spikelets 1¼‴ long.—HAB. Jamaica!, *March;* Antigua!, *Wullschl.*, Dominica!, *Imr.*, in pastures; Trinidad!, *Sch.*; [Cuba; to Brazil!; East Indies!].

40. **K. aphylla,** *Kth.* *Rhizoma creeping,* bearing ovate, spreading scales; *stems aphyllous,* sheathed at the base: *head single, globose,* exceeding the involucre, pale or pale-

rusty; *fertile glume* membranaceous at the margin, oblong, bluntish, 5–7-*nerved with the lateral nerves delicate*, twice as long as the obovate-oblong achenium: uppermost glume exserted, sharply keeled; stamens 3; style 2-fid.—*Sl. t.* 87. *f.* 2.—Mariscus, *V.* K. globosa, *P. B.* K. vaginata, *Lam.* (*ex parte*).—Stems approximate along the rhizoma, 2′–1½′ high, triquetrous at the tapering summit; heads dense, 6‴–4‴ diam.; spikelets 1½‴–2‴ long.—HAB. Jamaica!, *Pd., March, Al.*, on the seashore; Antigua!, *Wullschl.;* Trinidad!, *Cr.;* [Haiti and Mexico to Ecuador!; trop. Africa].

3. REMIREA, *Aubl.*

Spikelets 1-flowered: 3 or more inferior glumes empty, the uppermost fertile, at length leathery, including the achenium. *Stamens* 3. *Style* 3-fid: the achenium beaked by its base.—Rhizoma branched; stem *densely leafy;* leaves *rigid, spreading, channelled, tapering into a pungent point;* heads *dense, several in a cluster.*

41. **R. maritima,** *Aubl.* Leaves subdistichous; clusters sessile.—3″–4″ high; leaves 1″–1½″, clusters 4‴–6‴ long; sterile glumes many-nerved, pale or pale-brown, the fertile dotted.—HAB. Trinidad!, *Pd., Cr.*, on the seashore; [Panama! to Brazil!; West coast of trop. Africa].

4. ABILDGAARDIA, *V.*

Character of *Cyperus*, but fertile glumes becoming 3-stichous by torsion of the rhachis, style jointed at the base, and achenium mostly tubercled or winged.—Spikelets *compressed:* rhachis *winged;* style 3-*fid.*

42. **A. monostachya,** *V.* Perennial; stem usually exceeding the narrow leaves; *spikelets single* (–2), *terminal, ovate, pointed, pale, many-flowered;* glumes 3-nerved at the keel, 2 lowest empty, mucronate; *achenium tubercled*, 3-costate-subglobose, shortly stipitate. —*Sl. t.* 79. *f.* 2. *Rottb. Descr. t.* 13. *f.* 3.—Cyperus, *L.*—4″–6″(–12″) high; spikelets 3‴–4‴ long.—HAB. Jamaica!, *Wils.;* Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Sieb.;* [Cuba! to Brazil!; East Indies! to the Cape and Australia].

TRIBE II. *SCIRPEÆ.—Flowers hermaphrodite (or polygamous): scales imbricated all round.*

5. SCIRPUS, *L.*

Glumes devoid of included scales, most fertile, or 1–2 lowest sterile: the flower often supported by bristles. *Achenium* headless, or crowned with the thickish base of the style.—Spikelets *single, or cymose.*

Sect. 1. ELEOCHARIS, *R. Br.*—*Flowers supported by bristles (or the bristles sometimes abortive). Achenium jointed with the persistent, thickish base of the style (the tubercle).* —Spikelets single terminating the naked stem.

* *Stem striate, knotless, and devoid of distant transverse partitions of the pith.*

43. **S. retroflexus,** *Poir.* Rhizoma filiform, fibrous at the tufts; *stems* low, angular, capillary, knotless, *recurved; spikelets* elliptical-oblong, *few-flowered;* glumes few-ranked, oblong, bluntish, the lowest half as long as the spikelet or longer; *style* 3-*fid; achenium pale,* obovate, 3-*keeled* with convex, delicately and densely striate sides, *exceeding the bristles: tubercle* small, *conical, pointed.*—Cyperus depauperatus, *V.* (Eleocharis, *Kth.*). Chætocyperus polymorphus *α, Ns.* Ch. rugulosus, *Ns.!* 1″–3″(5″) high; spikelet 1‴–2‴ long, pale, or purple-variegated: flowers 2–6, lowest glume ¾‴–1‴ long. —HAB. Jamaica!, *Pd., Wils.*, in ponds and wet places; Dominica, *Imr.;* Trinidad, *Cr.;* [Cuba! and Mexico! to Brazil!].

44. **S. exiguus,** *Kth.* Rhizoma creeping; stem long, angular, capillary, knotless; *spikelet* elliptical-oblong, 6–12-*flowered;* glumes few-ranked, oblong, bluntish, subequal; style 3–2-fid; *achenium pale*, obovate, subcompressed, 3-*keeled* with 2 turgid-convex, smooth sides, *exceeding the few bristles, or bristles wanting: tubercle depressed-mamillar, flattish, shortly mucronate at the centre.*—Eleocharis, *Schult.*—Habit of *S. acicularis*, L., 3″–5″

high; spikelet 2‴ long; glumes purple, pale at the margin; filaments 2–3, long, persistent.—HAB. Trinidad!, *Cr.*, in savannahs; Mexico! to Venezuela!, *Fendl.* 1585].

45. **S. ocreatus,** *Gr.* Rhizoma fibrous, stoloniferous; stems low, striate, knotless: *sheaths* loose, membranaceous, *pointless; spikelet* ovate-oblong, 5–15-flowered; glumes few-ranked, elliptical-oblong, bluntish; *style 2-fid; achenium shining brown,* obovate, *biconvex, smooth, nearly as long as the bristles: tubercle* small, *conical, pointed,* about one-third as broad as the achenium.—Eleogenus, *Ns.* Eleocharis sulciculmis, *Sieb. Trin.* 4! S. caribæus, *Pl. Carib.*—8″–1″(–1′) high: stolons few, tardily appearing; spikelet 1‴–2‴ long, usually pale: lowest glume one-half or one-third as long.—HAB. Jamaica!, *Wullschl.*; Trinidad!, *Sieb.*; [Cuba! to Brazil!].

46. **S. capitatus,** *L., Cliff.* (*non Sp. Plant.*).—Root fibrous, annual; stems striate, knotless: *sheaths pointed; spikelet* globose-conical, *many-flowered;* glumes many-ranked, oval-roundish, blunt; *style 2-fid; achenium shining-brown,* obovate, *biconvex,* smooth, shorter than the bristles: *tubercle* small, *mamillar, mucronate,* pale.—*Sl. t.* 75. *f.* 2. *Rottb. Descr. t.* 15. *f.* 3: a low form.—Eleogenus, *Ns.* Eleocharis, *R. Br.* (*ex parte*), *Kth.* S. geniculatus, *L.* (*ex parte*).—Usually 1′ high, or lower; spikelet, 2″ long, pale, or variegated: flowers dense, 50–80.—HAB. Jamaica!, *Wils.*, *M'Nab*; Antigua!, *Wullschl.*; Trinidad!, *Pd.*, *Cr.*, *Lockh.*; [Louisiana! and Cuba! to Brazil!; trop. Asia!, Australia!, and Africa!].

47. **S. maculosus,** *V.* Rhizoma creeping; stem slender, striate, knotless: sheaths membranaceous at the lacerate, pointless top; *spikelet* elliptical-oblong, pointed, *many-flowered;* glumes many-ranked, ovate-oblong, blunt, brown-purple within the whitish, membranaceous magin; *style 2-fid; achenium shining-black,* obovate-roundish, minute, *turgid-biconvex, smooth, half as long as the bristles; tubercle conical, bluntish,* pale, half as broad as the achenium.—Eleocharis, *R. Br.*—1½′–1′ high; spikelet 4‴–5‴ long: flowers about 30; lowest glume 1½‴–2‴ long.—HAB. Caribbean islands; [Guadeloupe! to Brazil!].

48. **S. mitratus,** *Gr.* (*n. sp.*). Rhizoma fibrous, stoloniferous; stem slender, striate, knotless: sheaths obliquely truncate, or pointed, appressed; *spikelet* cylindrical, *many-flowered;* glumes 5–3-ranked, ovate-oblong, blunt, herbaceous with a membranaceous margin, lowest clasping; *style 2-fid; achenium pale,* obovate-roundish, subtruncate and *produced into a tumid ring* around the tubercle, constricted at the base, *biconvex, longitudinally 11–13-costate on each side, twice as long as the bristles: tubercle* compressed, *bluntly conical,* nearly half as long as the achenium, deciduous.—Habit of *S. palustris,* the achenium larger than in the allied *S. nodulosus;* stem cylindrical, 2′–1′ high: partitions of the pith approximate, several-ranked: sheaths purple; spikelet 8‴–16‴ long; glumes about 1‴ long, variegated, greenish on the convex, substriate back, purple along the whitish margin; achenium ⅔″ long: ribs prominent, obtuse, transversely rugulose: tubercle brownish: bristles usually 6, unequal.—HAB. Trinidad!, *Cr.*, in savannahs.

*** Stem terete, knotless, but divided internally by distant, transverse partitions of the pith.*

49. **S. nodulosus,** *Rth.* Rhizoma creeping; stem slender, terete, striate, knotless: pith distantly partitioned; *uppermost sheath mucronate;* spikelet conical-cylindrical, pointed (or bluntish), many-flowered; glumes many-ranked, membranaceous, flattish, ovate-lanceolate, or ovate, bluntish; style 3–2-fid; *achenium pale, ellipsoidal, biconvex, nearly smooth, as long as the bristles: tubercle* small, mamillar-conical, *as broad and long as the constricted summit of the achenium.*—Eleogenus, *Ns.* Eleocharis, *Schult.* E. consanguinea, *Kth.!* S. geniculatus, *Sw.* (*non L.*)—1′–2′ high: partitions of the pith 1-ranked: sheaths purple; spikelet 8‴–3‴(–16‴) long; glumes rusty-variegated; achenium ½‴ long, supported by a minute disk.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Guadeloupe!, Mexico! to Brazil!].

**** Stem terete, thickish, knotted by distant, transverse partitions of the pith.*

50. **S. constrictus,** *Gr.* Stem terete, thickish, knotted: sheaths truncate; *spikelet* cylindrical, or conical-cylindrical, blunt, *bigger than the tapering or constricted summit of the stem; glumes* many-ranked, *membranaceous,* ovate, blunt, lowest herbaceous within the

margin; *style 3-fid; achenium* pale, obovate, constricted at the base, biconvex, *nearly smooth, half as long again as the subulate tubercle*, exceeded by the bristles.—Eleocharis, *Schult.* Limnochloa, *Ns.* S. geniculatus, *Mey. Esseq.!* (Eleocharis, *Pl. Hostm., As. Gr. in Pl. Ervendberg.*).—3′–1′ high; spikelet 12‴–6‴ long, 4‴–3‴ thick, rusty, or rusty-variegated: bristles reaching to the summit of the beak.—HAB. Jamaica!, *Wils., Wullschl.*, in water; Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil].

51. **S. plantagineus,** *L., Sw.* Stem terete, thickish, knotted: sheaths with a deltoid point; *spikelet* cylindrical, *nearly as big as the stem* below its slightly constricted summit; *glumes* many-ranked, *cartilaginous-scarious* within the membranaceous margin, striate, obovate-roundish; *style 3-fid; achenium* pale, obovate, biconvex, *longitudinally striate, half as long again as the subulate tubercle*, slightly exceeded by the bristles.—*Sl. t.* 81. *f.* 3.—Limnochloa, *Ns.* L. articulata, *Pl. Spruce.* 4278. S. geniculatus, *L. (ex parte), Rottb.* S. interstinctus, *V.* (Eleocharis, *R. Br.*). Eleocharis mutata, *Weigelt. Surin.!* (*non R. Br.*). E. equisetoides, *Torr.*—3′–2′ high, big; spikelet pale, 9‴–2″ long; bristles exceeded by the beak.—HAB. Jamaica!, *Pd., Al., Wils.*, in water; S. Vincent!, *Guild.;* [Louisiana! and Cuba! to Brazil!].

**** *Stem triquetrous, knotless.*

52. **S. mutatus,** *L.* Stem triquetrous, knotless: sheaths with a deltoid point; *spikelet* cylindrical, bluntish, *nearly as big as the stem* below its slightly constricted summit; *glumes* many-ranked, *cartilaginous-scarious* within the membranaceous margin, striate, deltoid-roundish, blunt; style *3-fid; achenium* pale-brown, obovate, biconvex, *nearly smooth, twice as long as the conical-subulate tubercle*, slightly exceeded by the bristles.—Eleocharis, *R. Br.* Limnochloa, *Ns.*—1′–2′ high; spikelet pale, 9‴–18‴ long; bristles reaching to the summit of the beak.—HAB. Jamaica!, *Pd., Wils.*, lagoons; Antigua!, *Wullschl.;* [French islands!, *Sieb. Mart.* 10; Mexico to Uruguay!].

Sect. 2. EUSCIRPUS.—*Achenium naked, supported by bristles.*—Spikelets cymose-panicled in our species.

53. **S. validus,** *V.* Stem terete, stout, aphyllous, produced beyond the umbelliform panicle; spikelets glomerate, ovate-oblong, brown; glumes ovate-roundish, mucronate, ciliate; *style 2-fid; achenium* pale, obovate, mucronate, *flat-convex*, smooth, *shorter than the bristles.*—6′–10′ high, about 10‴ thick below: one form quite leafless; achenium scarcely 1‴ long, half as large as in *S. lacustris*, but broader than in *S. Tabernæmontani.*—HAB. Jamaica!, *Pd.*, in salt marshes and lagoons; [United States!, Mexico].

Sect. 3. FIMBRISTYLIS, *V.*—*Achenium naked: no bristles. Style deciduous.*—Most leaves rosular, and spikelets cymose in our species.

† *Achenium 3-angular; style thickened at the base* (Trichelostylis, *Lestib.*).

54. **S. autumnalis,** *L.* Annual, cæspitose, glabrous; stem compressed; *leaves linear-acuminate*, flat; cyme terminal, umbelliform, exceeding the involucre; spikelets brown, oblong (or ovate), pointed; glumes ovate, mucronate; style 3-fid; *achenium* pale, obovate-roundish, 3-gonal, *smooth.*—Fimbristylis, R. S. Trichelostylis mucronulata, *Torr.*—2′ high; spikelets 3‴–1‴ long: rhachis foveolate.—HAB. Jamaica!, Antigua!, *Wullschl.;* [United States! to Brazil!].

55. **S. amentaceus,** *Gr.* Perennial, erect, glabrous; stem compressed; *leaves linear, acute*, flat; cyme terminal, compound-umbelliform, exceeding the involucre; spikelets brown, lanceolate-oblong, pointed; glumes ovate-oblong, mucronate; style 3-fid; *achenium* pale, obovate-roundish, 3-gonal, *muricate.*—*Rudge, Guian. t.* 19.—Cyperus, *Rudg.* Trichelostylis Rudgeana, *Ns.*—1′–3′ high, spikelets 3‴ long: furrows of the rhachis winged.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.;* [French islands! to Brazil!].

†† *Achenium dorsally compressed; style cylindrical.*

56. **S. obtusifolius,** *V.* Perennial, erect, polished; stem compressed, naked above the densely rosulate leaves; *leaves rigid, linear, rounded at the top*, concave; cyme terminal, contracted or the primary rays expanded, usually longer than the short involucre; spikelets clustered, ovate, blunt; glumes brown, pale at the margin, ovate-oblong, blunt; style

3(–2)-fid; *achenium* brown, *obovate, flat-convex*, keeled on the back, nearly smooth or slightly rugose.—*P. B. Fl. Owar. t.* 81. *f.* 1.—Isolepis, *P. B.* Fimbristylis, *Kth.*—6″–12″ high; leaves 2″–4″ long, 1‴–1½‴ broad; spikelets 1½‴ long; stamens 2.—HAB. Antigua!, *Wullschl.*, on the sea-shore; [Brazil; trop. Africa to the Cape].

††† *Achenium biconvex; style flattish, ciliate, 2-fid* (Eufimbristylis).

57. **S. ferrugineus,** *L.* Perennial, rigid; stem subcompressed; *leaves* narrow, *channelled;* cyme terminal, umbelliform or compound; *spikelets pedicellate, rusty,* ovate-conical; glumes roundish-ovate, mucronate, pubescent on the back; stamens 3; style 2-fid, flat, ciliate; *achenium pale*, obovate, biconvex, *smooth.*—*Sl. t.* 77. *f.* 2.—Fimbristylis, *V.*—1½′–2′ high; spikelets 4‴(–6‴) long.—HAB. Jamaica!, *Pd.*, on watercourses; Antigua!, *Wullschl.*, on the seashore; Trinidad!; [all tropical countries to Buenos Ayres and the Cape].

58. **S. spadiceus,** *L.* Perennial, rigid; stem subcompressed-trigonal; *leaves* long, filiform, *convolute-channelled;* cyme terminal, usually compound-umbelliform; *spikelets pedicellate, shining-blackish,* subcylindrical or ovate, pointed; glumes broadly ovate, mucronate, glabrous; stamens 3; style 2-fid, flat, ciliate; *achenium brown*, obovate, biconvex, *densely striate.*—*Sl. t.* 76. *f.* 2.—Fimbristylis, *V.*—2′–3′ high; spikelets 6‴–8‴(–3‴) long,—HAB. Jamaica!, *Pd.*, *March*, on rivers and the seashore; Antigua!, *Wullschl.;* [United States! to south Brazil!].

59. **S. brizoides,** *Sm.* Perennial, slender; *leaves* linear, *flat*, scabrous-ciliate, exceeded by the compressed stem; cyme terminal, umbelliform; *spikelets pedicellate, rusty-variegated,* ovate-conical; glumes ovate, mucronate, glabrous; stamens 1(–2); style 2-fid, flat, ciliate; *achenium pale,* obovate, biconvex, 6–8-*costate on each side and transversely striate.*—F. laxa, *V.* S. annuus, *Pl. Carib.:* Allione's species has a roundish achenium, and 3–2 stamens. 6″–18″ high; spikelets 3‴–2‴ long.—HAB. Jamaica!, all coll., common in wet places; Antigua!, *Wullschl.*, Dominica!, S. Vincent!, *Guild.;* Trinidad!, *Sieb. Tr.* 5, *Cr.*, *Sch.*, in savannahs; [United States to Brazil!].

Sect. 4. ONCOSTYLIS, *Mart.*—*Achenium crowned with the persistent, thickish base of the style: no bristles.*—Habit of Fimbristylis.

60. **S. capillaris,** *L.* Annual, cæspitose; stems angular, setaceous; *leaves* rosulate, *setaceous-filiform:* sheath ciliate above or glabrescent; cyme terminal, *unequally umbelliform;* spikelets brown, ovate-oblong or ovate, bluntish; glumes ovate, keeled, bluntish; stamens 1–2; style 3-fid; *achenium pale, 3-gonal,* obovate, *transversely wrinkled:* tubercle minute, mamillar.—*Rudge, Guian. t.* 22.—Isolepis, *R. S.* Fimbristylis, *As. Gr.* S. tenuifolius, *Rudg.* (Fimbristylis, *Ns.*).—About 6″–8″ high, variable; spikelets 2‴ long.—HAB. Antigua!, *Wullschl.*, Dominica!, *Imr.;* [all tropical countries to United States! and Transcaucasia].

61. **S. juncoides,** *W.* Perennial, cæspitose; stems slender, angular; *leaves* rosulate, *setaceous-filiform:* sheath loose, densely ciliate above: *cyme* terminal, *contracted;* spikelets clustered, brown, ovate-lanceolate, pointed; glumes ovate-lanceolate, mucronate; stamens 2: style 3-fid; *achenium pale-brown, 3-gonal,* obovate, *nearly smooth:* tubercle very minute.—Isolepis junciformis, *Kth.*—1′–1½′ high, spikelets 1½‴ long, often all clustered.—HAB. Trinidad!, *Lockh. Cr.*, in savannahs; [Cuba! to Brazil].

6. HEMICARPHA, *Ns.*

Character of *Scirpus*, but a single scale in the axils of the fertile glumes below the flower. *Achenium* naked: style 2(–3)-fid, deciduous.—Low, cæspitose annuals; stems *capillary, with a short leaf at the base;* spikelets *clustered* (*or single*): cluster *apparently lateral.*

62. **H. subsquarrosa,** *Ns.* Clusters of 3–2, ovate, many-flowered spikelets, exceeded by the bract (the lower involucral leaf); glumes pale-brown, lanceolate with a spreading or recurved point; stamen 1; achenium oblong, subterete, bluntish, pale, exceeding the interior scale.—*Mart. Fl. Bras.* 3. *t.* 4. *f.* 1.—Scirpus, *Mühlenb.* Isolepis, *Schrad.*—3″–6″ high; spikelets 2‴–1‴ long.—HAB. Trinidad!, *Cr.;* [Illinois! to Brazil!].

7. FUIRENA, *Rottb.*

Character of *Scirpus*, but 3 scales below the flower (rarely abortive).—Erect, leafy, angular perennials: sheaths *ligulate;* spikelets *usually clustered;* glumes *awned*, or *mucronate*.

63. **F. umbellata,** *Rottb.* Stem usually glabrous; *sheaths* 5-*angular*, somewhat loosened; clusters in terminal and axillary umbels: peduncles hispid; glumes awned, 3-nerved, greenish-brown; achenium pale, 3-gonal, smooth, supported by 3 obovate scales and no bristles.—*Rottb. Descr. t.* 19. *f.* 3.—2′-several feet high; leaves 8‴–4‴ broad, flat; spikelets 2‴–3‴ long.—Hab. Jamaica!, all coll.; Dominica!, *Imr.;* Trinidad!, *Sieb.*, *Cr.;* [all tropical countries].

8. DIPLASIA, *Rich.*

Fertile glumes including 4 scales below the flower, lower empty. *Stamens* 8–6. *Achenium* corky, biconvex, dorsally compressed, mucronate.—Stem *stout, angular, leafy;* leaves *flat, lanceolate-linear, serrulate-scabrous;* spikelets *large, subcylindrical, acuminate, brown*, 3–5-*nate in a corymbiform, involucrate, terminal panicle.*

64. **D. karatifolia,** *Rich.—Rudge, Guian. t.* 24.—Leaves 2′–3′ long, 1″–1½″ broad; involucre large; spikelets 1″ long; style 2-fid, slender.—Hab. Trinidad!, *Pd.*, in woods; [Guiana!, Brazil!].

9. CLADIUM, *P. Br.*

Spikelets few–1-flowered. *Glumes* devoid of included scales and bristles, lower empty. *Style* deciduous. *Achenium* corky, naked.—Erect perennials; sheaths *closed below;* spikelets *usually clustered.*

65. **C. occidentale,** *Schrad.* Stout; stem obtusely 3-gonal, half terete at the summit, glabrous, leafy; leaves long, linear-acuminate, concave, serrulate-scabrous; *spikelets dark-brown, ovate-lanceolate*, acuminate, 3–5-*nate:* clusters in an interrupted panicle; stamens 2; style 3(–4)-fid; achenium ellipsoidal, with a bluntish point.—Schœnus Cladium, *Sw.*—8′–10′ high; spikelets 1½‴ long, shining.—Hab. Bahamas!; Jamaica!, *Pd.*, in maritime bogs; [Cuba! to Brazil].

10. MACHÆRINA, *V.*

Spikelets few-flowered, compound: lowest special glume empty. *Glumes* devoid of included scales, provided with bristles below the flower. *Stamens* 3. *Style* 3-fid. *Achenium* 3-gonal, smooth, crowned with a conical beak.—An erect perennial; stem *compressed;* leaves *equitant, distichous, flat, devoid of asperities, except along the edges of the superior sheaths:* lowest sheaths *open, superior closed below;* spikelets *brown, in a racemiform panicle.*

66. **M. restoides,** *V.* Schœnus, *Sw.*—3′–5′ high; leaves rigid, 6‴–8‴ broad, lower 2′–3′ long, superior distant, rapidly decrescent; spikelets 2‴ long: peduncles cymose, variable in length.—Hab. Montserrat, Dominica!, *Imr.*, S. Vincent!, *Guild.*, on the top of the mountains: [Cuba! to French islands!].

11. RHYNCHOSPORA, *V.*

Spikelets terete, or biconvex, few-flowered: lower glumes empty, uppermost usually with imperfect, or ♂ flowers. *Flowers* usually supported by bristles. *Style* 2-fid–2-partite, or minutely 2-dentate. *Achenium* biconvex, crowned with a beak (the dilated base of the style).—Leafy, erect, mostly perennial sedges.

Sect. 1. Eurhynchospora.—*Flowers supported by bristles. Style 2-fid. Achenium separated from the beak by a broad, transverse joint.*

67. **R. cephalotes,** *V.* Stem stout, simple, 3-angular; leaves long, flat, scabrous at the margin; *spikelets* pale-brown, lanceolate, *in a dense, ovoid, terminal head:* involucre long, deflexed; glumes ovate, mucronate; achenium obovate, transversely wrinkled, shorter than "the conical-subulate beak, exceeded by the bristles."—*Rottb. Descr. t.* 20.—Schœnus,

Rottb.—Several feet high, glaucous, glabrous; leaves 4‴ broad; head 1″ (–3″) long, rarely compound.—HAB. Trinidad!, *Cr.;* [Panama!, Guiana!, Brazil].

68. **R. comata,** *Lk., Schlecht.* *Covered with short down,* (or glabrescent); stem 3-angular; leaves long, flat; *spikelets* pale-brown, glabrous, ovate-conical, *pedicellate in* axillary, peduncled and terminal *compound racemes or corymbs:* bracts setaceous; glumes elliptical, awned-mucronate; *achenium* obovate, margined, *smooth,* brown-rusty, shorter than the conical-subulate, greenish beak, exceeded by the upwards scabrous bristles.—R. bromoides, *Kth.* R. sylvatica, *Ns.*—2′–4′ high, glaucous; leaves numerous, 3‴–5‴ broad; spikelets 3‴ long, somewhat shining.—HAB. Trinidad!, *Cr., Lockh.,* on roadsides; [Panama!, Guiana, Brazil].

69. **R. gracilis,** *V.* Stem slender, obtusely 3-gonal; leaves narrow, flat, glabrous; *spikelets brown,* ellipsoidal-conical, *glomerate in* axillary, peduncled, and terminal *small cymes:* bracts linear-setaceous; glumes ovate, or ovate-lanceolate, lower small; *achenium* elliptical-roundish, *transversely wrinkled,* pale-brown, *longer than the short, conical,* greenish *beak,* usually little shorter than the upwards scabrous bristles.—Schœnus, *Sw.* (*sec. V.*). R. glauca, *V., Kth.* R. filiformis, *Sieb. Mart.* 383!—Habit of *R. fusca,* but higher, 2′–4′ high; leaves 1‴ broad; spikelets 2‴ long.—HAB. Jamaica!, *Pd., Al., Wils., M'Nab,* in mountain-bogs; [Haiti! and Mexico to Brazil!].

Sect. 2. HAPLOSTYLIS, *Ns.*—*Flowers supported by bristles. Style minutely 2-dentate at the filiform summit, or subentire.*

* *Spikelets in a single, terminal head.*

70. **R. barbata,** *Kth.* Stem slender, simple, angular; *leaves* narrow, keeled, *pilose* beneath and along the margin; spikelets pale-rusty, ovate-lanceolate, in a globose, terminal head: *involucre* exceeding it; *leaflets herbaceous,* acuminate, ciliate; glumes oblong-lanceolate; *achenium brown, smooth,* elliptical, *cymbiform by inflexed, marginal, pale wings:* wings passing upwards into the flattish, membranaceous, subtruncate beak, which is as broad as the achenium: bristles much longer than the achenium, pilose at the base.—Schœnus, *V.* Haplostylis, *Ns.*—8″–12″ high; leaves 1‴–½‴ broad; head 4‴–5‴ diam.—HAB. Trinidad!, *Cr.,* in savannahs; [Panama!, Guiana!, Brazil].

71. **R. globosa,** *R. S.* Stem rigid, simple, angular; *leaves* involute-filiform, *rigid; spikelets* pale-rusty, *ovate-lanceolate,* in a hemispherical, terminal head: *involucre* exceeded by it: *leaflets coriaceous, roundish,* mucronate, or awned, rusty; lower glumes ovate, superior oblong-lanceolate; "achenium rusty, smooth, obovate: beak short, pale, conical:" bristles long, pilose to the summit.—*Presl, Reliq. Hænk.* 1. *t.* 36.—Cephaloschœnus, *Ns.*—2′–4′ high, naked above the base; head 6‴–8‴ diam.—HAB. Trinidad!, *Lockh.,* in moist savannahs; [Mexico to Brazil!].

72. **R. curvula,** *Gr.* (*n. sp.*). Stem rigid, filiform, low, simple; *leaves* all cæspitose, short, incurved, *rigid,* channelled-3-quetrous, linear-acuminate, bluntish at the top; *spikelets* pale-greenish, *linear-acuminate, spreading,* 5–8 *in a* single, *terminal cluster: involucre obsolete,* of minute scales; lower glumes and involucre scales ovate, bluntish, superior glumes lanceolate-linear; achenium (young) lanceolate-oblong, subtruncate: beak very short, conical, jointed at the base, narrower than the achenium: bristles long, unequal, densely pilose to the summit.—Allied to the preceding, but stems only 5″–6″ high, several from the same dense tuft of leaves; leaves 1½″–1″ long, nearly devoid of sheaths; spikelets 3‴ long, acuminate.—HAB. Trinidad!, *Lockh.,* in woods.

** *Spikelets in umbellate, or fascicled, globose heads; achenium jointed with the beak.*

73. **R. cyperoides,** *Mart.* Stem slender, 3-gonal; leaves linear; *heads globose,* rusty-brown, *unequally umbellate,* the central sessile; spikelets ovate, acuminate; lower glumes ovate, superior ovate-lanceolate; *achenium* rusty, obovate, *smooth, jointed with the beak: beak* pale, subulate-linear, *much narrower than and about as long as the achenium,* which is exceeded by the scabrous bristles.—*Mart. Fl. Bras.* 3. t. 12.—Schœnus, *Sw.!* S. polycephalus, *Pers.* (Rhynchospora, *Wydl.,* Ephippiorhynchium, *Ns.*) S. triceps, *V.* R. aurea, *Sieb. Mart.* 8. Ephipphiorhynchium tenuirostre, *Ns.!,* a form with few heads.—1′–2′ high; heads 4‴–6‴ diam.—HAB. Jamaica!, *Sw., Pd., Wullschl.;* Trinidad!, *Lockh., Cr.;* [French islands! and Mexico to Brazil!].

*** *Spikelets clustered, or fascicled, in a corymb or corymbose panicle; beak emarginate at the jointed base.*

74. **R. stenorhyncha,** *Gr.* (*n. sp.*) Stout; stem 3-gonal; leaves linear, scabrous at the margin and keel: spikelets rusty-brown, lanceolate-acuminate, clustered: clusters in large, erect, compound (or simple) corymbs, usually exceeded by the involucre; lower glumes ovate, mucronate, superior oblong-lanceolate, acuminate; *achenium* rusty, *elliptical-oblong, or spathulate-oblong, bluntish, transversely wrinkled: beak pale, filiform,* tapering, abruptly dilated at its clasping-emarginate base, little longer than the achenium, which is exceeded by the scabrous bristles.—Habit of *Cyperus longus,* and distinguished from *Calyptrostylis fascicularis,* Ns., by the ripe achenium not "obconical," and deeply wrinkled. 3′–4′ high; corymb slender, usually 4″–8″, spikelets 3‴–4‴ long: 3–5 in each cluster; hermaphrodite flowers single, superior ♂; stamens 3; style exserted, minutely 2-dentate; achenium 1½‴, beak 2‴ long.—Hab. Trinidad!, *Pd.,* in wet savannahs.

75. **R. surinamensis,** *Ns.* Stout; stem sharply 3-gonal; leaves long, broadly-linear, scabrous at the margin and keel; spikelets rusty-brown, elliptical-lanceolate, acuminate, clustered: clusters in diverging, corymbiform panicles, exceeded by the supporting leaf; lower glumes ovate, superior ovate-lanceolate; *achenium* rusty, *obovate, transversely 1–2-grooved near the margin,* as broad as the emarginate base of the beak: *beak brownish, conical,* nearly as long or longer than the achenium, *with a longitudinal furrow at each side:* bristles scabrous, longer than the achenium.—*Rottb. Descr. t.* 21. *f.* 1.—Schœnus, *Rottb., Sw.* R. aurea, *V., R. Br.*—2′–4′ high; leaves 6‴–8‴ broad: spikelets 2‴, achenium (without the beak), 1‴ long.—Hab. Jamaica (*Sw.*); Trinidad!, *Cr.;* [French islands!; Panama!, Guiana!; tropical Asia (*Sw.*) and Australia (*R. Br.*)].

76. **R. florida,** *Dictr.* Stout; stem angular; leaves linear; spikelets rusty-brown, lanceolate-acuminate, shortly racemose-fascicled, in diverging, simple or compound corymbs, usually nearly as long as the supporting leaf; lowest glume ovate, most lanceolate; *achenium shining-ochraceous, obovate, obtusely margined, smooth,* little broader than the subtruncate base of the beak: *beak brownish, compressed-conical,* nearly as long or longer than the achenium, *devoid of longitudinal furrows:* bristles scabrous, longer than the achenium.—*Mart. Fl. Bras.* 3. *t.* 13.—Calyptrostylis, *Ns.* Schœnus longirostris, *Sieb. Mart.* 261. (R. aurea, *var. Schlecht.*)—2′–6′ high; leaves variable in breadth and asperities, 6‴–2‴ broad; spikelets 4‴, achenium (without the beak) 1‴ long.—Hab. Jamaica!, *Pd., March,* on the summit of the Blue Mountains; Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! to Venezuela! and Guiana].

Sect. 3. Nomochloa, *P. B.* (Pleurostachys, *Brongn.*).—*Flowers supported by denticulate bristles. Style 2-partite; base thickened. Achenium contiguous with its short beak.*—Spikelets in terminal, and axillary, peduncled corymbs or panicles.

77. **R. millegrana,** *Schrad.* Stout; stem 3-quetrous, usually devoid of asperities (except the peduncles); leaves long, lanceolate-acuminate, puberulous, or glabrate; *panicles* short, *deltoid: branches compound,* inferior gradually more distant; *spikelets* small, pale-brown, *elliptical, blunt, shortly spicate;* glumes ovate; achenium rusty, ovate-roundish, smooth, as long as the few (3–4) bristles: beak shortly compressed-conical.—Nemochloa, *Ns.*—4′ high: leaves 10‴–8‴ broad; panicles long-peduncled, 3″, spikelets 1‴ long.—Hab. Trinidad!, *Cr.;* [Brazil].

Sect. 4. Mitrospora, *Ns.*—*Bristles below the flower none (or "abortive"). Style minutely 2-dentate at the filiform summit.*

78. **R. polyphylla,** *V.* Stout, or slender; stem 3-gonal, leafy; leaves linear; *panicles* axillary, and terminal, *diverging, short, deltoid; spikelets* straw-coloured, or pale-brown, *lanceolate-acuminate,* several-flowered, in short spiciform racemes; lower glumes ovate, superior lanceolate; *achenium* rusty-brown, *ovate-roundish, longitudinally striate, and minutely tubercled,* as broad at the truncate summit as the beak and jointed with it: *beak* compressed-conical, greenish, *one-third as long as the achenium:* no bristles.—Schœnus, *V.* Mitrospora, *Ns.* R. ferruginea, *Sieb. Mart.* 9!—2′–4′ high; leaves 2‴–4‴ broad; panicles numerous, 3″–4″, spikelets 2‴ long.—Hab. Jamaica!, all coll., in the mountains; Montserrat, Dominica!, *Imr.;* [Cuba! to Venezuela! and Peru].

Sect. 5. Dichromena, *V.—No bristles below the flower. Style 2-fid.*

* *Spikelets fascicled, or corymbose ; glumes convex, rarely keeled.*

79. **R. spermodon,** *Gr.* Stem slender, filiform ; leaves setaceous ; *spikelets* pale, or pale-brown, *lanceolate-acuminate, in terminal and axillary fascicles,* exceeded by the supporting leaf ; lower glumes elliptical, awned-mucronate, superior lanceolate ; *achenium* greenish-brown, *roundish, transversely wrinkled-undulate, 2-dentate-emarginate, much* longer and *broader than the short, compressed-conical, blunt, blackish beak.—Rottb. Descr. t.* 21. *f.* 2 ; *Mart. Fl. Bras.* 3. *t.* 8. *f.* 1.—Schœnus setaceus, *Rottb.* (Spermodon, *P. B.*, Dichromena, *Kth.*)—Root fibrous, at length stoloniferous ; stems 6″–12″ high ; spikelets 2‴–3‴ long, geminately clustered, or single, often few in the shortly peduncled fascicle.—Hab. Jamaica, *Wullschl.*, in dry pastures : [Guiana !, Brazil].

80. **R. filiformis,** *V.* (*sec. Kth.*). Stem slender, rigid, filiform ; leaves setaceous ; *spikelets* brown, or pale-brown, *lanceolate-linear, acuminate, in simple, terminal, and a few axillary corymbs ;* lower glumes elliptical-oblong, awned-mucronate, superior lanceolate-linear ; *achenium* brown, *roundish, slightly scabrous-dotted, truncate, obsoletely 2-dentate,* supported by a cuneate disk, *much* longer and *broader than the short, compressed-conical, blunt, blackish beak.*—Dichromena, *Kth.* Spermodon, *Ns. !*—8″–15″ high ; spikelets 5‴–6‴ long.—Hab. Trinidad !, *Lockh.*, in sandy savannahs ; [Brazil !].

81. **R. cubensis,** *Gr.* Stem filiform, flaccid ; leaves setaceous, channelled ; *spikelets* pale, or pale-brown, *lanceolate-acuminate, in simple, terminal, and a few axillary corymbs ;* lower glumes ovate, superior lanceolate ; *achenium roundish, obsoletely wrinkled transversely,* supported by a minute disk, much longer than and *as broad at the summit as the short beak ; beak greenish, compressed-conical, bluntish, emarginate at the base, shortly decurrent.*—Dichromena, *Pœpp.* : but the achenium is pale in our form.—Nearly allied to (and perhaps a form of) *Holoschœnus capillaris,* Ns. !, (*Dichromena,* Kth.), in which the achenium is deeply wrinkled transversely. 1′–1½′ high ; spikelets 2‴ long.—Hab. Dominica !, *Imr. ;* [Cuba !, *Lind.* 2069].

82. **R. micrantha,** *V., Prl. Annual ;* stem flaccid, filiform ; leaves linear, flat ; *spikelets* pale, or pale-brown, *ovate-roundish, in terminal and a few axillary, divaricate corymbs : pedicels filiform ;* glumes few, ovate-lanceolate, bluntish ; *achenium* pale, or brown, *roundish, transversely wrinkled, margined,* thrice as long and broader than the short beak : *beak greenish, compressed-conical, pointed, shortly decurrent.*—Dichromena, *Kth.* R. sparsa, *Sieb. Mart.* 259 ! (Haloschœnus, *Ns. !*).—4″–8″(–12″) high ; leaves 1‴ broad ; spikelets scarcely 1‴ diam.—Hab. Jamaica !, *Pd.*, along ditches ; Antigua !, *Wullschl.*, Dominica !, *Imr.*, S. Vincent !, *Guild. ;* [Portorico ! and Mexico to Venezuela ! and Guiana].

83. **R. hirsuta,** *V. Pilose ;* stem slender, filiform ; leaves narrowly linear, flattish, or convolute ; *spikelets* rusty-brown, *ovate-lanceolate,* several-flowered, *clustered in* terminal, and a few axillary, *spreading corymbs ;* glumes ovate, or ovate-oblong, pointed ; *achenium* pale, *subglobose, densely reticulated-scrobiculate, broader than the short beak : beak brownish, compressed-conical, pointed, truncate at the not decurrent base.*—Dichromena, *Kth.*—6″–10″ high ; leaves ½‴ broad ; corymbs 1″ diam. ; spikelets 1½‴–2‴ long. —Hab. Trinidad !, *Cr.*, in savannahs.

** *Spikelets in a terminal, exinvolucrate cluster ; glumes keeled.*

84. **R. pusilla,** *Gr.* Low, cæspitose ; leaves incurved, flattish, or convolute, ciliate, about as long as the filiform stem ; *cluster* terminal, *of a few, white, alternating,* oblong-lanceolate *spikelets :* lateral ones as long as their bract ; glumes ovate-lanceolate ; *achenium roundish, slightly wrinkled transversely,* obtusely margined : *beak brown, short, depressed-conical, bluntish,* truncate at the base and as broad as the summit of the achenium.—*Sw. Ic. Ind. Occ. t.* 6.—Schœnus, *Sw. :* style wrongly described by Swartz as being 3-fid. Dichromena, *Kth.*—1″–3″ high ; spikelets approximate, 1‴ long ; achenium yellow, or black.—Hab. Jamaica !, *Wils.*, *M'Nab*, *Wullschl.*, on wooded, rocky hills ; [Cuba !, Guadeloupe !].

*** *Spikelets in a terminal head, included within the often coloured base of the long involucre ; glumes keeled.*

85. **R. stellata,** *Gr. Wholly glabrous ;* rhizoma creeping ; stem angular ; cluster

hemispherical: *involucre not ciliate* at the subulate, white base, 5–7(–3)-leaved; *spikelets white,* ovate-oblong, bluntish; *achenium* obovate-roundish, truncate, obtusely margined, delicately wrinkled transversely, *twice as long* and as broad *as the compressed-conical, pointed beak.*—*Sl. t.* 78. *f.* 1.—Schœnus, *Lam.* Dichromena leucocephala, *Mich.*—1′–1½′ high; spikelets 2‴–3‴ long; achenium pale-brown, (dark-brown, when young): beak greenish-brown, (pale, when young).—HAB. Jamaica!, *Wullschl.*; [United States!; Cuba! to French islands!].

86. **R. pura,** *Gr.* Rhizoma creeping; stem glabrous; cluster ovate: involucre ciliate at the base, long, 6–5-leaved; *spikelets white,* oblong-lanceolate; acuminate; *achenium* obovate-roundish, margined, transversely wrinkled, 3–4 *times as long* and nearly as broad *as the compressed-conical, pointed beak.*—Dichromena, *Ns.*—6″–12″ high; involucre whitish at the base chiefly within; spikelets 3‴ long; achenium yellowish: beak rusty-brown.—HAB. Antigua!, *Wullschl.*, S. Vincent; [Venezuela!, Guiana].

87. **R. Vahliana,** *Gr.* *Pilose with short down,* (or stem glabrate); rhizoma "creeping;" cluster ovate-roundish, spreading: involucre ciliate at the base, 7–5-leaved; *spikelets rufescent,* ovate-lanceolate, pointed; *achenium* obovate-roundish, obtusely margined, transversely wrinkled, *twice as long* and nearly as broad *as the compressed-conical, pointed beak.*—Dichromena ciliata, *V.*—1′–2′ high, slender; involucre of the preceding; spikelets 3‴ long; achenium rusty-variegated: beak blackish.—HAB. Jamaica!, *Al.*, *Wils.*, common; Trinidad!, *Cr.*; [Southern United States to Brazil!].

88. **R. Humboldtiana,** *Gr.* Rhizoma fibrous; stem glabrous; cluster roundish, spreading: involucre ciliate at the base, 3–5-leaved, nearly green; *spikelets white with reddish lines,* ovate-oblong, bluntish; *achenium* margined, *coarsely wrinkled, as broad as the depressed, rounded beak.*—Dichromena, *Ns.* D. pubera, *V.*—½′–2′ high; spikelets 2‴ long; achenium rusty-greenish: flattish beak blackish.—HAB. Trinidad!, *Sieb. Tr.* 3; [Mexico! to Brazil!; Galapagos!].

89. **R. Persooniana,** *Gr.* Rhizoma "creeping;" stem glabrous; cluster roundish, spreading: involucre ciliate, 5–6-leaved; *spikelets rufescent,* ovate-lanceolate, pointed; *achenium* obovate-roundish, obtusely margined, *delicately wrinkled transversely,* 4 *times as long* and nearly as broad *as the compressed-conical, blunt beak.*—Dichromena, *Ns.* Schœnus ciliatus, *Mey. Esseq.!*—1′–2′ high; involucre little coloured at the base; spikelets 2‴–3‴ long; achenium yellowish, with approximate darker, flexuose streaks: beak blackish.—HAB. Jamaica!, *Wils.*; [Cuba! and Mexico to Guiana!].

90. **R. setigera,** *Gr.* *Glabrous;* rhizoma fascicled, filamentose at the summit; stem subcylindrical, rigid; leaves convolute, rigid; *cluster* dense, *globose, emerging from the recurved,* 3-*leaved, not ciliate involucre; spikelets white,* shortly oblong-lanceolate, acuminate, few-flowered; "*achenium* obovate-roundish, transversely wrinkled, *twice as long* and as broad *as the compressed-conical, bluntish beak.*"—Dichromena, *Kth.!*—½′–1½′ high spikelets 1½‴ long.—HAB. Trinidad!, *Lockh.*; [Brazil to Uruguay!].

TRIBE III. *SCLERINEÆ.*—*Flowers unisexual, imbricated. Achenium often bony, supported by a disk.*

12. SCLERIA, *Berg.*

Spikelets ♂ *and* ♀ *usually mixed, or androgynous,* ♀ 1(–2)-*flowered: lower glumes empty.* Style 3-*fid.* Achenium *bony, supported by a hardened disk.*—Perennials; stem 3-*angular, leaved;* upper glumes *in* ♀ *approximate around the disk, the latter usually* 3-*lobed.*

Sect. 1. EUSCLERIA.—*Disk cupular, usually at length double with opposite lobes*—Leaves ligulate: ligule opposite to the blade. Spikelets paniculate, monœcious, (or partly androgynous): uppermost ♂.

* *Panicle narrow, or virgate; disk 3-lobed with the lobes entire, or truncate.*

91. **S. pratensis,** *Lindl.* Leaves broadly linear: *sheaths and branches of the narrow panicle narrowly* 3-*winged:* ligule herbaceous, ovate-oblong, bluntish; ♂ glumes 1-androus; *achenium depressed-globose,* smooth, enamel-like-shining, *with a papilliform point: disk broadly* 3-*lobed,* interior adhering, exterior tardily separated.—*Mart. Fl. Bras.* 3. *t.* 23.—S.

communis, *Kth.*—2′–4′ high; leaves 6‴–4‴ broad; achenium 1‴ diam., white (or black).—HAB. Jamaica!, *Al.*; Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [Cuba! to Brazil!].

92. **S. melaleuca,** *Reichenb.* Leaves linear: *sheaths and branches of the narrow panicle narrowly 3-winged:* ligule herbaceous, ovate-deltoid, bluntish; ♂ glumes 1-androus; *achenium ovoid-globose,* or globose, smooth, shining, *mucronate with the truncate style-base: disk broadly 3-lobed,* interior adhering, exterior tardily separated.—3′–1′ high; leaves 3‴–4‴ broad; achenium 1½‴–1‴ long, black, or white below a black summit.—HAB. Jamaica!, *Macf.*; Trinidad!, *Lockh.*, *Cr.*; [Panama!, Guiana!, Brazil!].

93. **S. microcarpa,** *Ns.* Leaves linear-acuminate, or lanceolate-linear: *sheaths narrowly 3-winged,* with the wings tapering into keels below: ligule herbaceous, rigid, ovate, or ovate-lanceolate, blunt; panicle narrow: branches 3-quetrous; ♂ glumes 3-androus, superior ♀ shorter than the achenium; *achenium ovate-globose,* smooth, shining, *mucronate with the truncate style-base: exterior disk truncate, entire, exceeding the interior 3-lobed one:* the former tardily separated.—Ophryoscleria, *Ns.*—2′–4′ high; leaves 4‴–8‴ broad; achenium 1¼‴ long, white (or black).—HAB. Jamaica!, *Al.*, *Pd.*; Antigua!, *Nichols.*; [Cuba! and Mexico to Brazil!].

94. **S. mitis,** *Sw.* Leaves lanceolate-linear, nearly devoid of asperities: *sheaths 3-winged,* with the wings tapering downwards: ligule herbaceous, rigid, bluntly deltoid; panicle long, virgate: branches 3-gonal; ♂ glumes 3-androus; *achenium globose,* smooth, shining, *with a minute, papilliform point: disk entire, truncate, ciliate,* adhering, *not separated from the interior, included 3-lobed one.*—Ophryoscleria, *Ns.*—High, "trailing;" leaves 6‴–8‴ broad; achenium 1½‴ diam., white.—HAB. Jamaica!, *Al.*; Dominica!, *Imr.*; [French islands! to Brazil].

** *Panicle short, spreading.*

95. **S. scindens,** *Ns.* Stout; leaves long, linear: *sheaths* not winged, *3-keeled, with the keels very sharply retrorsely serrulate-scabrous:* ligule herbaceous, marcescent, rounded; panicle short, spreading: branches 3-quetrous; ♂ glumes 3-androus; *achenium globose,* smooth, enamel-like-shining, *with a papilliform point: interior disk 3-lobed,* inserted into a short carpophore, recurved at the margin of the lobes, *exterior repand.*—A "formidable sedge, cutting the skin like a knife" (*Imr.*); leaves 4‴–5‴ broad; achenium 1½‴ diam., white (or bluish-black).—HAB. Dominica!, *Imr.*, in woods; [Cuba!, French islands].

96. **S. latifolia,** *Sw.!* Stout; leaves oblong-lanceolate, or lanceolate: *sheaths 3-winged,* with the wings tapering towards the node: ligule herbaceous, bluntly deltoid; panicle short, dense, spreading: branches 3-quetrous, scabrous; ♂ glumes 3(–2)-androus; *achenium globose,* smooth, enamel-like-shining, *with a terminal scar: interior disk inciso-dentate and 3-lobed, exceeding the exterior, the latter patellar, repand-entire.*—2′–6′ high; achenium 1‴–1½‴ diam., white, bluish-variegated, or black.

α. Leaves lanceolate, 1″–1½″ broad; panicle pale; achenium rounded above.—S. arundinacea, *Kth.* (*sec. Ns.*) Schizolepis latifolia, *Ns.*

β. trigonocarpa. Leaves oblong-lanceolate, 1½″–2½″ broad; panicle-branches green: spikelets purplish-brown; achenium with a very blunt summit and 3 (scarcely visible) angles above.—*Mart. Fl. Bras.* 3. *t.* 26.—Schizolepis trigonocarpa, *Ns.*

γ. sylvestris, Kth. Leaves 1″–2″ broad; panicle-branches and spikelets purple; achenium with a blunt summit, devoid of angles.—Schizolepis sylvestris, *Ns.* Scleria cyanocarpa, *Kth.*

HAB. Jamaica!, *Sw.* (*α*), in dry mountain-woods of the Western districts; Dominica!, *Imr.* (*β*, *γ*), S. Vincent!, *Guild.* (*γ*); Trinidad!, *Lockh.*, *Pd.* (*β*, *γ*), in woods and savannahs; [French islands; Venezuela!, Guiana!, Brazil.].

97. **S. flagellum,** *Berg.*, *Sw.* (*non Kth.*) High, *trailing;* leaves linear-acuminate: *sheaths not winged, 3-gonal,* retrorsely scabrous: *ligule scarious-membranaceous,* blunt; panicles terminal, and axillary, short, lax: branches 3-quetrous, hairy; ♂ glumes 3-androus, superior ♀ including the achenium; *achenium* globose, or ovate-globose, smooth, shining, *with a terminal scar: disk* short, *subentire, exterior* adhering, *recurved at the tumid margin,* including the interior: the latter minute, entire.—*Sl. t.* 77. *f.* 1. *Sw. Fl. t.* 3.—S. reflexa, *Kth.* (Mastigoscleria, *Ns.*). Carex lithosperma, *L.* (Scirpus, *L.*, *ex syn. Sl.*). Schœnus secans, *L.*—10′–15′ high, cutting; leaves 2‴–3‴ broad; spikelets purplish-brown; ache-

nium 1''' diam., white (or variegated).—HAB. Jamaica !, *Sw.*, *Pd.*, in woods; Trinidad !, *Pd.*; Haiti to Brazil !].

98. **S. bracteata,** *Cav.* Leaves linear: *sheaths not winged, 3-gonal,* devoid of asperities, but mostly pubescent: ligule herbaceous, bluntly deltoid; panicles terminal ♂, short, lax, axillary ones narrow, superior mixed of ♂ and ♀, inferior ♀; ♂ glumes 3-androus; *achenium globose, transversely rugose and hairy, mucronate* with the style-base: disk at length double, exterior and interior broadly 3-lobed, the latter tardily separated.—*Mart. Fl. Bras.* 3. *t.* 24: the interior disk still included and subentire.—Macrolomia, *Ns.*—Leaves 2'''–5''' broad; achenium white, 1''' diam. or less.—HAB. Trinidad !, *Pd.*; [Cuba ! and Mexico ! to Brazil ! and Peru !].

Sect. 2. HYPOPORUM, *Ns.*—*Disk minute, entire, patelliform.*—Stem slender; ligule short, or none; spikelets in spicate clusters, ♂, ♀, or androgynous mixed.

99. **S. hirtella,** *Sw.* Leaves pilose, narrowly linear, superior short; spike simple: *clusters* 8–5, distant, *hirsute:* bracts short; ♂ glumes 2-androus; achenium globose, smooth, slightly mucronate, 3-gonal–3-furrowed at the base: *furrows 4–5-porous* along the upper margin: disk flat, 3-gonal.—Hypoporum, *Ns.* S. distans, *Poir.*, *Kth.*—1'–3' high; spikelets 2''' long; achenium $\frac{2}{3}$''' diam., white.—HAB. Jamaica (*Sw.*); Trinidad !, *Lockh.*, *Pd.*, *Cr.*, common in moist savannahs; [Florida ! and Mexico ! to Peru ! and Brazil].

100. **S. filiformis,** *Sw.* Leaves narrowly linear, keeled, glabrous: ligule bluntly deltoid; spikes terminal (and axillary, peduncled): *clusters* few, distant, *glabrous:* common bract long-setaceous; ♂ glumes 1-androus; achenium globose, smooth, slightly mucronate, 3-furrowed at the base: *furrows devoid of special pores:* disk obtusely 3-gonal, brown at the tumid margin.—S. purpurea, *Poir.*, *Sieb. Tr.* 14 ! Hypoporum purpurascens, *Ns.*—1'–2' high, usually flaccid; spikelets 3''' long; achenium 1''' diam., white.—HAB. Jamaica !, *Pd.*, *M'Nab*, *Wullschl.*, in arid mountains, Manchester, Westmoreland; Antigua !, *Wullschl.*, Dominica !, *Imr.*; Trinidad !, *Sieb.*, *Cr.*; [Cuba !, Haiti].

13. BECQUERELIA, *Brongn.*

Character of *Scleria*, but androgynous spikelets compound at the base, the lowest glumes producing special ♂ spikelets, the middle empty, and the superior ones approximate around the single ♀ flower. *Disk* adnate to the achenium, simple, entire.—Leaves *devoid of a ligule, lowest long, rosulate;* spikelets *clustered:* clusters *in terminal and axillary corymbs or spikes;* ♂ glumes 1-*androus.*

101. **B. cymosa,** *Brongn.* Leaves broadly linear, keeled; *clusters in compound, diverging corymbs:* axillary corymbs exceeded by their leaves; glumes subulate, uppermost exceeding the tubercled, mucronate, depressed-globose achenium.—*Mart. Fl. Bras.* 3. *t.* 27. —B. Merkeliana, *Ns.*—2'–4' high; leaves 8'''–4''' broad; spikelets 2''' long; achenium white.—HAB. Trinidad !, *Cr.*, in savannahs; [Guiana !, Brazil].

14. PTEROSCLERIA, *Ns.*

Spikelets androgynous, compound: partial inferior few, ♂, superior 1-flowered, ♀. *Glumes* sharply keeled on the back, larger ones recurved-mucronate, lower in ♀ empty, 2 uppermost including the flower. *Style* 3-fid. *Achenium* bony, seceding from the repand disk.—Leaves *devoid of a ligule;* spikelets *clustered, in single terminal, and axillary heads.*

Nees' generic character (as well as his description of the habit) corresponds exactly with our species: only what he calls geminate spikelets, is to be interpreted as the production of partial spikelets from the axils of glumes, as is evident from the structure of our plant, and from the homologous organs in the allied genera *Becquerelia* and *Calyptrocarya.* I am, however, not acquainted with the original *P. guianensis*, Ns. (comprising probably *Scleria capitata*, W.), which would be distinguished by short leaves, the reduced number of spikelets and glumes, and by a smooth achenium.

102. **P. longifolia,** *Gr.* (*n. sp.*). Stem erect, 3-quetrous; leaves long, linear, flat, acuminate; heads dense, subglobose, axillary distant, shortly peduncled, or subsessile; ♀ *partial spikelets numerous; achenium* white, globose, slightly 3-keeled, and *longitudinally*

costate with convex, distantly reticulated wrinkles.—Rhizoma fibrous, stoloniferous; stem glabrous, 1′–4″ high, exceeded by the leaves; leaves 1½′–5″ long, about 2‴ broad, striate, keeled, glabrous, erect; heads greenish, 6‴ diam., often hemispherical: involucre foliaceous, 3‴-leaved, unequal, spreading; spikelets 3‴ long; glumes oblong-lanceolate, cymbiform with the winged keel excurrent into the spreading-recurved point: several and those of the partial ♂ spikelets membranaceous, narrow, not keeled; uppermost ♀ convolute around the ovary.—HAB. Trinidad!, *Lockh.*; [Guiana!, in wet savannahs and woods: *Kegel,* 1116, 1117: Isolepis echinulata?].

15. CALYPTROCARYA, *Ns.*

Spikelets androgynous, compound; partial inferior ♂, superior 1-flowered, ♀. *Lower glumes* empty, superior in ♀ approximate around the flower and supporting besides 3 abortive partial spikelets, which are inserted below the disk. *Style* 2-fid. *Achenium* chartaceous, with the scabrous epidermis seceding: disk flattish, 3-gonal.—Spikelets *subglobose, most in axillary, unequal, and proliferous umbels.*

103. **C. angustifolia,** *Ns.* *Leaves narrowly linear,* exceeding the stem; umbels subsessile: pedicels flexuose; achenium ovoid-globose, bluntly mucronate.—Stem glabrous; leaves 1‴ broad; achenium ½‴ diam., at length white: the seceding epidermis pale-brown. —HAB. Trinidad!, *Lockh., Cr.*, in woods; [Guiana, Equat. Brazil].

16. LAGENOCARPUS, *Ns.*

Spikelets monœcious, ♂ compound, ♀ 1-flowered: lower glumes empty. *Style* 3(2–3)-fid. *Achenium* coriaceous, devoid of a hardened disk, produced above its cavity into a corky, conical summit.—Perennials; stem *few-leaved, rigid;* most leaves *rosulate;* spikelets *paniculate;* upper glumes in ♀ *approximate around the* 3–5-*lobed, disappearing disk,* ♂ 1-*androus.*

104. **L. tremulus,** *Ns.* Leaves rigid, linear, channelled; spikelets of both sexes mixed, or ♀ superior, clustered, or unequally fascicled along the half-whorled peduncles: half-whorls distant on the common axis; glumes brown, common ones awned, or mucronate; *achenium* brown, smooth, 3-striate below the middle, *ellipsoidal-oblong: upper part hollow, as long as the fertile cavity,* separated from it by a diaphragma: apex minutely truncate: 3-fid style deciduous.—2′–4′ high; leaves 3‴–4‴ broad; panicle narrow; spikelets 1½‴–2‴ long.—HAB. Trinidad!, *Cr.*; [Guiana!].

TRIBE IV. *CARICINEÆ.—Flowers unisexual, imbricated. Achenium included within a tubular palea (the perigynium).*

17. CAREX, *L.*

Perigynium 2-keeled, contracted at the summit, persistent around the achenium, none in the ♂ flowers.

§ *Spikelets androgynous,* ♂ *above. Style* 3-*cleft.*

105. **C. scabrella,** *Wahl.* Cæspitose, flaccid, glaucous; spikelets few, ovoid, lateral much exceeded by the foliaceous bract, uppermost 1–2, second sessile, inferior distant, peduncled; glumes lax, brown with a green midrib, subulate; *perigynium* ellipsoidal, pointed with a short, 2-dentate beak, many-nerved, *scabrous-pubescent,* greenish, half as long again as the glume.—Wahlenberg's incomplete description does not agree in the leaves said to be "very narrow."—Less than 1′ high, exceeded by the flattish, 1‴ broad leaves; spikelets about 3‴ long.—HAB. Jamaica!, in mountains (*Sw.*); [Cuba!].

106. **C. cladostachya,** *Wahl.* Slender; spikelets in distant, peduncled spikes: bracts foliaceous; glumes lax, rusty, ovate, mucronate; "*perigynium* cuneate-oblong, with a 2-denticulate beak, many-nerved, *glabrous.*"—My specimen (1′ high, flaccid, leaves scarcely 1‴ broad), being very young, is doubtful. "Spikes of 7–17 spikelets."—HAB. Jamaica!, in the Blue Mountains: *Al.* (*Sw.*).

C. polystachya, Wahl., is said to be distinguished from *C. cladostachya* by numerous, approximate spikelets and an erect stem: it was found in the same locality.

18. UNCINIA, *Pers.*

Character of *Carex*, but with an awn-like pedicel between the perigynium and the pistil.—Spikes *simple, androgynous:* ♀ flowers *inferior;* style 3-*fid.*

107. **U. jamaicensis,** *Pers.* Stem glabrous, about as long as the cæspitose, flat leaves; *spike long-cylindrical, tapering at both ends;* glumes elliptical, bluntish; *perigynium* spathulate-lanceolate, flat-convex, *puberulous and ciliate above, half as long as the glabrous,* hamate, long-exserted *awn.*—Carex hamata, *Sw.*—1′–2′ high; spike 3″–5″ long, pale-green, or brown-variegated.—Hab. Jamaica!, *Pd.*, in high mountains; [Mexico, Panama!, Venezuela!, Ecuador!].

CXXXVII. JUNCEÆ.

Flowers apetalous. *Calyx* glumaceous: divisions 6. *Stamens* 6–3, perigynous. *Ovary* compound, 3–1-celled: stigmas 3, with collecting hairs. *Capsule* many–3-seeded. *Embryo* minute, in the summit of amylaceous albumen.—Habit of grasses, *but flowers cymose.*

1. JUNCUS, *L.*

Calyx deeply 6-partite, 2-seriate. *Capsule* half-3-celled or 3-celled, loculicide, many-seeded.—Flower 2-*bracteolate.*

1. **J. tenuis,** *W.* Perennial; stem slender, filiform, leafy at the base; leaves inarticulate, channelled, narrow; cyme terminal, loose, supported by 2 (–1) involucral leaves; flowers pale, single, distant, subsessile, mostly one-sided along its branches; sepals lanceolate, sharply acuminate, exceeding the ovoid, or ovoid-oblong, subtruncate capsule; stamens 6.—In our form (*J. tenuis*, var. *unicornis*, E. Mey., *J. cognatus*, Kth., *J. parviflorus*, Poir.?) the stem is 1½′ high, the leaves are almost as long, filiform, and the involucral leaves, one of which is usually suppressed, scarcely longer than the cyme.—Hab. Jamaica!, *Wils.;* [United States! to Uruguay; Western Europe!]

CXXXVIII. LILIACEÆ.

Perigone coloured, of 6 divisions. *Stamens* 6. *Ovary* compound. *Capsule* 3 (–1)-celled. *Embryo* axile in fleshy albumen.—Leaves *mostly parallel-nerved, often rosulate.*

An acrid principle is general, which has been found to contain sulphur in the Garlick, Onion, and allied cultivated species of *Allium.* From the milky sap of *Aloe vulgaris* (cultivated for that purpose in the West Indies) the drastic medicine, known as Aloes, is obtained. *Agave* and *Fourcroya* afford valuable fibre. A spirit is obtained from the fermented juice of *Agave.*

Tribe I. *ASPHODELEÆ.—Ovary superior.*

1. ALLIUM, *L.*

Perigone 6-partite, persistent. *Stamens* perigynous, often dilated at the base: anthers introrse. *Style* simple. *Capsule* loculicide: seeds black.—Scape *usually bulbous;* umbels *terminal, supported by a spathe.*

Sect. 1. Nothoscordum, *Kth.—Style terminal. Ovary-cells several-ovulate.*

1. **A. striatum,** *Jacq.* Leaves narrowly linear, rosulate at the base of the subterete scape; umbel loose, much exceeding the spathe; segments of the whitish perigone lanceolate-oblong, bluntish, exceeding the simple stamens; ovary shorter than the style: cells 4–8-ovulate.—*Redout. Lil.* 1. *t.* 50. *Bot. Repos.* 2. *t.* 107.—Nothoscordum, *Kth.* N. striatellum, *Kth.* N. fragrans β, *Kth.* A. gracile, *Andr.*—Scape 8″–2′ high; leaves ½‴–1‴ broad; perigone 4‴–3‴ long.—Hab. Jamaica!, *Hartw.*, in the mountains of Port Royal; Barbadoes; [United States! to Chile!].

2*. ALOE, *L.*

Perigone tubular, deciduous: limb 6-fid. *Stamens* hypogynous: anthers introrse. *Style* simple: stigma 3-lobed, or subentire. *Capsule* loculicide: seeds black.—Succulent, often woody plants; flowers *racemose.*

2*. **A. vulgaris,** *Lam.* Stoloniferous, nearly stemless; leaves few, rosulate, fleshy, lanceolate-acuminate, glaucous, spinose-dentate; flowers yellow, nodding: perigone equal; stamens shortly exserted.—*Desc. Fl.* 2. *t.* 130.—A. barbadensis, *Mill.* A. perfoliata, *var.* vera, *L.*—Scape 2′-3′ high, 1½″-2″ thick at the base, often few-branched; perigone 1″ long. —HAB. Naturalized and cultivated in Jamaica, Antigua!, *Wullschl.*; S. Vincent!, *Guild.*; Barbadoes, on dry hills; [said to be introduced from the Canary islands, or the Bermudas, (*Sl.*), naturalized in the southern Mediterranean region!].

3. YUCCA, *L.*

Perigone 6-partite, persistent. *Stamens* perigynous, included: anthers introrse, erect. *Stigmas* 3, sessile. *Capsule* fleshy, tardily loculicide at the summit, many-seeded: seeds depressed, black.—Woody plants; leaves *rosulate at the summit of the simple trunk*; panicle *terminal.*

3. **Y. aloifolia,** *L.* Stout; *leaves* lanceolate-acuminate, or lanceolate-linear, thickish, rigid, *crenulate-scabrous* at the margin, pungent at the summit, interior erect; perigone lurid: segments erect, ovate, or ovate-oblong, pointed.—*Tuss. Fl.* 2. *t.* 29.—10′-12′ high; leaves 1½″-1″ broad; perigone 1½″ long.—HAB. Jamaica!, *Al.*; Antigua!, *Wullschl.*; [Southern United States, Mexico].

TRIBE II. *AMARYLLIDEÆ.—Ovary inferior.*

4. AGAVE, *L.*

Perigonial limb 6-partite, persistent: stamens inserted into its tube, exserted: anthers incumbent, introrse. *Style* simple. *Capsule* loculicide, many-seeded: seeds flattish, black. —Leaves *fleshy, rosulate at the base of a stout, many-flowered, peduncle or scape*; lobes of the perigone *narrow.*

4. **A. americana,** *L.* Stemless; *leaves* thick, glaucous, *linear-acuminate,* spinose at the point and margin, exterior recurved; flowers greenish-yellow, densely clustered at the summit of the alternate branches of the scape; perigone constricted above the ovary.—20′-36′ high; perigone 1½″-2″ long.—HAB. Jamaica, (*P. Br.*), common on barren, rocky hills; Antigua!, *Wullschl.*; Dominica, *Imr.*; [Cuba, Mexico; naturalized in Southern Europe! and East Indies!].

No other *Agave* occurs in our collections: *A. antillarum,* Desc. Fl. 4. t. 284. ("flowers orange-coloured, leaves 5″ broad, pointed") is to be compared with *A. sobolifera,* Salm., said to be introduced from Jamaica and Haiti; *A. Keratto,* Mill., ("leaves 3″ broad, green, suberect"), introduced from S. Kitts, is doubtful.

5. FOURCROYA, *ent.*

Character of *Agave,* but perigonial tube filiform, lobes elliptical, stamens included, filaments dilated below.—Woody plants; leaves *fleshy, rosulate at the summit of the simple trunk*; flowers *racemose, simple-ternate along the branches of stout, terminal peduncles, often transformed into bulbilli.*

5. **F. cubensis,** *Haw.* *Leaves* linear-lanceolate, coarsely *spinose-dentate*; bulbilli "ellipsoidal."—*Jacq. Amer. Pict. t.* 261. *f.* 25: the flower.—Agave, *Jacq.*—Trunk short, erect; peduncle 20′-35′ high; perigone whitish: limb about 1″ long, as long as the tube.—HAB. Naturalized in Jamaica!, *Pd.*; Tabago; [Cuba to Brazil].

6. **F. gigantea,** *Vent.* *Leaves* linear-lanceolate, mucronate, *quite entire*; bulbilli ovate-lanceolate, acuminate.—*Jacq. Ic. Rar. t.* 379. *Tuss. Fl.* 2. *t.* 25, 26.—Agave fœtida, *L.*—Trunk at length 3′-4′, peduncle 25′-30′ high; perigone greenish-white: limb about

1″ long, little shorter than the tube.—HAB. Antigua!, *Wullschl.*; [French islands! to Brazil].

6. PANCRATIUM, *L.*

Perigonial tube long, slender, bearing a crown at its throat: limb 6-partite. *Stamens* inserted into the crown: filaments long: anthers incumbent. *Style* simple. *Capsule* loculicide: seeds fleshy.—Leaves *rosulate from a bulb;* scape *terminated by a cluster of large flowers:* perigonial lobes *narrow.*

7. **P. caribæum,** *L.* Leaves lanceolate-oblong, tapering at the base; flowers 12–6, sessile, white: *tube of the perigone* straight, filiform, *shorter than the lobes: crown infundibular, half as long as the stamens,* sinuate: its teeth produced into the filaments; *anthers attached below the middle.—Commelyn, Hort.* 2. *t.* 87. *Jacq. Amer. Pict. t.* 102.—Hymenocallis, *Herb.* H. Sloanei, *Rœm.* P. declinatum, *Jacq.* P. amœnum, *Salisb.* (*Linn. Transact.* 2. *t.* 10). P. patens, *Red.*—Leaves 3″–4″ (–2″) broad; perigonial tube 2″–3″, limb 3″–4″, crown about 1″ long.—HAB. Jamaica; S. Kitts, Antigua!, *Wullschl.*; Dominica!, *Imr.*; [Guiana!].

8. **P. patens,** *Lindl.* (*non Red.*). Leaves lanceolate-oblong, tapering at the base; flowers 4–6, sessile, white: *tube of the perigone* straightish, filiform, *longer than* (or as long as) *the lobes: crown infundibular, longer than half the stamens,* repand: its teeth produced into the filaments; *anthers attached much below the middle.*—Hymenocallis caymanensis, *Herb.*—Leaves 3″ broad; perigonial tube 5″–3″, limb 4″–3″, crown 16‴ long.—HAB. Jamaica!, *March.*; [Great Kayman].

9, **P. carolinianum,** *L.* (*ex Catesb.*). Leaves linear, sessile; flowers 4–3 (–8), sessile, white: *tube of the perigone* straight, filiform, *longer than the lobes: crown campanulate, as long as the stamens,* 12-*dentate:* alternate teeth produced into the filaments; *anthers attached at the middle.—Catesb. Carolin. App. t.* 5.—P. rotatum, *Ker* (Hymenocallis, *Herb.*).—Leaves 1″ broad; perigonial tube 4″–5″, limb 3″–4″, crown 1½″–2″ long.—HAB. Jamaica!, *March*; [United States to Mexico].

7. CRINUM, *L.*

Perigonial tube long, slender, naked: limb 6-partite. *Stamens* inserted into the throat of the perigone: filaments long: anthers incumbent. *Style* simple. *Capsule* "evalved: seeds fleshy."—Leaves *rosulate from a columnar or globose bulb;* scape *terminated by a cluster of large flowers.*

* *Leaf-ribs parallel.*

10. **C. erubescens,** *Ait., (Herb., non Jacq.). Leaves linear,* with a bluntish point, scabrous at the margin: ribs parallel; *flowers* 4–12, *sessile,* whitish; *perigonial tube straightish, filiform to the summit, about twice as long as the expanded limb: lobes narrowly linear;* stamens spreading.—*Herb. Amar. t.* 44. *f.* 12: the flower.—C. guianense, *Rœm.!*—Leaves 1″–1½″ broad; perigonial tube 6″, lobes 4″–3″ long, the latter 3‴–4‴ broad.—HAB. Jamaica!, *Dist.*, in ditches; [Guiana!].

11. **C. longiflorum,** *Herb. Leaves linear or oblong-linear,* acuminate, slightly scabrous at the margin: ribs parallel; *flowers* 6–12, *sessile,* whitish and purple-variegated; *perigonial tube* cernuous, filiform, *gradually dilated at the summit into the campanulate-infundibular limb,* exceeding it in length: *lobes oblong-lanceolate, mucronate-pointed;* stamens declined.—*Bot. Reg. t.* 303.—I exclude the figure of *Bot. Mag. t.* 2336 (said to represent a hybrid from *C. capense* and *erubescens*), which has pedicellate flowers. Leaves 1″–2″ broad; perigonial tube 6″–5″, limb 4″–3″ long: lobes connivent, at length spreading, 10‴ broad: their mucro of variable length, often 4‴ long.—HAB. Jamaica!, *March*; Antigua!, *Wullschl.*

** *Leaf-veins in curves from the midrib.*

12. **C. floridanum,** *Fraser (inedit.). Leaves oval, or oval-oblong,* bluntish, tapering into the petiole, glabrous at the margin: lateral ribs curved; *flowers* 4–3, *pedicellate,* white;

perigonial tube straightish, linear, *little longer than the expanded limb: lobes narrowly linear;* stamens spreading.—I adopt Fraser's name on account of the resemblance of this species with *C. bracteatum*, W. (Jacq. Schœnbr. 4. t. 495; *C. asiaticum*, Red. Lil. 6. t. 348), to which Fraser's plant was reduced by Ker. The lesser number of flowers, the narrow petiole, the bulb probably less columnar, and the American habitat speak for its peculiarity: if however it should not prove distinct, Willdenow's name is to be adopted, as *C. asiaticum*, L., rests chiefly upon the authority of Rumphius, and from the original figure (*Herb. Amboin.* 6. *t.* 69) its leaves appear to be oblong, with parallel ribs. Leaf-blade 9″–10″ long, 3″–4″ broad, petiole 5″ long, 5‴ broad; pedicels as long as the ovaries; perigonial tube 4″–3″ long, 2‴–3‴ diam., lobes 3″ long, 2‴ broad.—Hab. Jamaica!, *Wullschl.*; [an island near the coast of Florida, along the sea (*Fras.*)].

13. **C. giganteum,** *Andr.* *Leaves lanceolate-oblong*, acuminate, tapering into the broad petiole, scabrous at the margin: lateral ribs slightly curved; *flowers* about 8–12, *sessile*, white; *perigonial tube* cernuous, linear, almost *twice as long as the campanulate-infundibular limb: lobes oval-oblong*, blunt with a minute point; stamens declined.—*Red. Lil.* 4. *t.* 181.—C. petiolatum, *Herb.*—Leaves (the petiole included) 2½′–3′ long: blade 4″, petiole near the base 1″ broad; perigonial tube 5″, limb 3″ long, lobes 14‴–18‴ broad.—Hab. Jamaica!, *March*; [Brazil; Western trop. Africa to the Cape].

8. AMARYLLIS, *L.*

Perigonial tube short: limb infundibular, often unequal, 6-partite. *Stamens* inserted into the tube of the perigone: filaments long: anthers incumbent. *Style* simple. *Capsule* usually loculicide: seeds black, compressed.—Leaves *rosulate from a bulb;* flowers *umbellate-single, rarely clustered:* spathe 2-*valved, or tubular.*

Sect. 1. Hippeastrum, *Herb.*—*Spathe 2-valved, 2–many-flowered. Perigone nodding. Stamens declined.*

14. **A. equestris,** *Ait.* Leaves oblong-linear with a bluntish point, about as long as the 2(–4)-flowered scape; *perigone* "*cinnabar-coloured:*" *tube* slender, *hairy at the throat*, gradually dilated into the spreading limb: *lobes ovate-oblong, pointed, subequal;* stamens included; stigma blunt.—*Bot. Mag. t.* 305.—Hippeastrum, *Herb.* H. occidentale, *Rœm.* A. Belladonna, *Sw. (non L.), Mey. Esseq.!*—Leaves 1″ broad; perigone 3″–5″ (tube about 1″) long.—Hab. Jamaica!, *Al., March;* Antigua!, *Wullschl.;* Barbadoes; Trinidad; [Portorico! to Guiana!].

Sect. 2. Zephyranthes, *Herb.*—*Spathe tubular, 1-flowered. Perigone suberect, infundibular, subequal. Stigma 3-fid.*

15. **A. tubispatha,** *Ker.* Leaves few, linear, channelled, about as long as the scape; *spathe 2-fid, half as long as the pedicel; perigone white*, greenish at the base, as long as the pedicel: tube very short: *segments obovate-oblong*, subequal, twice as long as the three longer stamens; anthers 3‴ long; style included, exceeding the stamens.—*Bot. Mag. t.* 1586.—Zephyranthes, *Herb.*—Leaves 3‴ broad; perigone 2″–1½″ long.—Hab. Jamaica; Antigua!, *Wullschl.;* [French islands!].

16. **A. carinata,** *Spreng.* Leaves linear, channelled; *spathe monophyllous, slit on one side, exceeding the included pedicel; perigone rosy*, much longer than the pedicel: tube short: *segments obovate-oblong, pointed*, subequal, exceeding the subequal stamens; anthers 8‴ long; style included, shortly exceeding the stamens.—*Bot. Mag. t.* 2594.—Zephyranthes, *Herb.*—Leaves 2‴–4‴ broad; spathe 1″–1½″, perigone 2½″–3″ long.—Hab. Jamaica!, *March;* [Mexico to Brazil].

9. HYPOXIS, *L.*

Perigonial limb 6-partite, spreading, persistent. *Stamens* inserted into its base: anthers erect, introrse. *Style* simple. *Capsule* 3-celled, evalved, many-seeded. seeds black, subglobose, laterally attached by a retinaculum-like funiculus.—Leaves *grass-like, plaited, rosulate from a bulb;* flowers *single, or fascicled, supported by bracts.*

17. **H. decumbens,** *L.* Hairy; bulb ovoid; *leaves* linear, acuminate, 3–5-*nerved, recurved-flaccid,* longer than the decumbent, few(–1)-flowered scapes; *bracts linear, exceeding the pedicel; perigonial tube wholly adnate:* lobes ovate-lanceolate, pointed; capsule clavate-cylindrical, slightly curved.—*Mart. Fl. Bras.* 8. *t.* 7. *f.* 1.—Leaves 2‴–4‴ broad; perigone yellow, externally greenish: limb 5‴–6‴ diam.—Hab. Jamaica!, *Wils., Wullschl.,* in savannahs; Trinidad!, *Cr.;* [Cuba! to Brazil!].

18. **H. scorzonerifolia,** *Lam.* Hairy; bulb oblong; *leaves* linear-lanceolate, acuminate at both ends, *many-nerved, erect; flowers axillary, sessile, single,* exserted from the membranaceous, oblong-lanceolate bract; *perigonial tube filiform, long-produced beyond the ovary:* lobes elliptical-lanceolate, bluntish; "capsule oblong."—*Desc. Fl.* 8. *t.* 593.—Leaves 2‴–5‴ broad; perigone yellow within, externally pale-red: limb 8‴–12‴ diam.—Hab. Jamaica!, *Wullschl.;* S. Vincent; [Haiti to Brazil!].

CXXXIX. SMILACEÆ.

Character of *Liliaceæ,* but pericarp mostly fleshy, albumen corneous, and embryo usually minute.—Lateral leaf-ribs *curved, often reticulated;* perigone *of* 6–4 (–10) *divisions, inferior.*

The Sarsaparilla is the root of *Smilax papyracea,* the Jamaica China-root that of *S. Balbisiana.*

1. CALODRACON, *Planch.*

Perigone campanulate, 6-fid, deciduous: stamens inserted into its throat, included. *Filaments* subulate, anthers 2-fid-incumbent. *Ovary* 3-celled, many-ovulate. *Stigma* 3-fid.—Trees; leaves *rosulate at the summit of a simple trunk, striated by approximate lateral ribs proceeding from the midrib, petioled;* panicle *terminal of compound racemes or spikes:* pedicels *jointed at the summit.*

1. **C. Sieberi,** *Planch.* Leaves lanceolate-oblong, mucronate; *pedicels one-third as long as the bluish perigone,* much exceeding the minute bracts.—Cordyline, *Kth.* Dracæna terminalis, *Sieb.* (Cordyline, *Pl. Kegel.*).—Leaves 9″–15″ long, 2″–3″ broad, green with a violet tinge; pedicels 2‴, perigone 5‴–6‴ long.—Hab. S. Kitts!; Trinidad (*Sieb.*); [French islands! to Guiana!, probably introduced from the Old World].

2. SMILAX, *L.*

Flowers diœcious. *Perigone* 6-phyllous, deciduous: stamens inserted into its base. *Anthers* erect, recurved. *Ovary* 3-celled: cells 1(–2)-ovulate: ovules pendulous, atropous. *Style* 3-partite. *Seeds* subglobose, not black.—Shrubby (rarely herbaceous) climbers, *often prickly;* leaves *palmatinerved, reticulated-veiny:* tendrils *in pairs from the petiole;* umbels *peduncled, axillary.*

Sect. Pharmacosmilax.—*Anthers about as long or longer than the filaments.—Network of veins* dense, mostly prominent on both sides of the leaf.

* *Flower-buds ovoid, or subglobose,* 1‴ *long, or less; branches prickly.*

2. **S. papyracea,** *Poir.* Branchlets angular: *leaves membranaceous-chartaceous,* ovate-oblong, oblong-lanceolate, (or cordate-ovate), acuminate with a bluntish point, veiny on both sides, glabrous: *tendrils inserted below the middle of the petiole; peduncles shorter than* (or as long as) *the petiole;* flower-buds ovoid; anthers oblong, as long as the filament; *berries red.—Plum. Ed. Burm. t.* 83. *Mart. Fl. Bras.* 5. *t.* 1.—S. acuminata, *W.* S. officinalis, *Kth. sec. Seem.* S. globifera, *Mey. Esseq.!* S. Hostmanniana, *Kth.*—Leaves green, very variable, as in all the following species; flowers "greenish."—Hab. Trinidad!, *Sch.;* [Mexico to Guiana! and Equat. Brazil].

3. **S. surinamensis,** *Miq.!* Branchlets subcylindrical; *leaves membranaceous-chartaceous,* ovate-oblong, oblong-lanceolate (or cordate-ovate), bluntish-mucronate, veiny on both sides, glabrous: *tendrils inserted at the middle of the petiole; peduncles shortly ex-*

ceeding the petiole; flower-buds ellipsoidal; anthers oblong, longer than the filament.—Nearly allied to the preceding; "flowers white."—Hab. Trinidad!, *Cr.;* [Panama!, Guiana!].

4. **S. Balbisiana,** *Kth. Branchlets acute-angular; leaves chartaceous,* veiny on both sides, glabrous, mucronate, inferior subcordate-deltoid, superior oblong, or lanceolate-oblong: *tendrils inserted below the middle of the petiole; peduncles shorter than* (or as long as) *the petiole;* flower-buds ovoid; anthers oblong, as long as the filament; *berries black.—Sl. t.* 143. *f.* 1. *Plum. Ed. Burm. t.* 85.—S. pseudochina e Jamaica, *L., Berter.* S. China, *Lun.* S. cuspidata, *Poir. ex Plum.* (*non ex Descr.*). S. celastroides, *Kth.*—Inferior leaves 3″–4″, superior 1″ broad, most blunt; flowers greenish.—Hab. Jamaica!, all coll., common; Dominica!, *Imr.*

5. **S. viscifolia,** *Poir. Branchlets* obtuse-angled, or *subcylindrical; leaves chartaceous,* veiny on both sides, glabrous, mucronate, most lanceolate-oblong, or lanceolate, inferior cordate-ovate: *tendrils inserted below the middle of the petiole; peduncles as long as the petiole;* flower-buds ovoid; anthers oblong, about as long as the filament: *berries black.*—Branchlets destitute of sharp angles, at length cylindrical; leaves often rusty, most 10‴–3‴ broad, bluntish, lowest large, 4‴ broad; flowers greenish.—Hab. Jamaica!, *Dist., Mart.;* [Haiti!].

6. **S. subaculeata,** *Spreng.* Branchlets angular; *leaves membranaceous,* ovate-oblong, mucronate, glabrous, veiny on both sides: *tendrils inserted at the middle of the petiole;* "peduncles exceeding the petiole."—Leaves 3–5-nerved, superior 3″ long, 14‴- 6‴ broad, rounded at the base, acuminate, prickly beneath on the midrib in our sterile, doubtful specimen, collected by *Wullschl.*—Hab. Jamaica (*Berter.*).

7. **S. havanensis,** *Jacq.* Branchlets angular; *leaves rigid, leathery,* roundish, or oblong, usually blunt, or emarginate, mucronate, often prickly along the thickish margin, glabrous, veiny on both sides (or beneath only): *tendrils inserted at the middle of the petiole;* peduncles shorter than or as long as the petiole; flower-buds ovoid-globose; anthers oblong, as long as the filament; *berries purple.—Jacq. Amer. Pict. t.* 263. *f.* 85: a roundish leaf. S. dentata *and* ilicifolia, *Kth.* S. oblongata, *Sw.?*: the form with the leaf-ribs prominent only beneath, subimpressed above. S. coriacea, *Spreng.?*: the same, unarmed.—Leaves usually 1½″–2″ long, 2″–6‴ broad.—Hab. Bahamas!, *Swains.;* [Cuba! and Haiti!; Mexico to Brazil].

** *Flower-buds clavate, or oblong,* 3‴–1½‴ *long.*

8. **S. domingensis,** *Schlecht.!* Unarmed, glabrous; branchlets subcylindrical; *leaves chartaceous,* ovate, or ovate-oblong, cuspidate, veiny on both sides: *tendrils inserted above the base of the petiole; peduncles shorter than the petiole;* flower-buds ellipsoidal-oblong; anthers oblong, about as long as the filament; berries black.—*Plum. Ed. Burm. t.* 82.—S. Schlechtendalii, *Kth.!* (S. Schiedeana, *Kth.*)—Leaves 3″–4″ long, 1″–2″ broad, contracted at the complicated base, thickish at the margin: network divaricate; flower-buds 1½‴–2‴ long; berries 4‴ diam.—Hab. Jamaica!, *Al.;* [Cuba!, Haiti; Mexico!].

9. **S. macrophylla,** *W.* Slightly prickly (or unarmed), glabrous; branchlets subcylindrical, or angular; *leaves chartaceous,* most ovate, or ovate-oblong, bluntish, veiny on both sides, inferior cordate-ovate: *tendrils inserted above the base of the petiole; peduncles longer than the petiole;* flower-buds oblong-lanceolate; anthers linear, longer than the filament; berries black.—*Plum. Ed. Burm. t.* 84.—S. cuspidata, *Poir. Pl. Carib.*—Prickles small, often distant; leaves large, usually 6″ long, 4″ broad, rarely 1½″–2″ broad: network divaricate; flower-buds 3‴ long; berries 4‴ diam.—Hab. Antigua!, *Wullschl.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [French islands!].

CXL. DIOSCOREÆ.

Flowers unisexual. *Perigone* of 6 divisions. *Stamens* 6–3. *Ovary* inferior: cells 2-ovulate: style 3-partite. *Embryo* minute, mostly in a central cavity of corneous albumen: cotyledon usually flattish.—Climbers; leaves *of Smilaceæ;* flowers *small, in axillary spikes or racemes.*

The Yams are the esculent tubers of several cultivated species of *Dioscorea*, said to be introduced formerly from Africa and Asia.

1. DIOSCOREA, *L.*

Capsule 3-celled, dehiscent at the wing-shaped angles. *Seeds* flat, winged: cotyledon flattish.—Stem twining, herbaceous from a tuberous root; flowers *mostly diœcious, usually greenish.*

Sect. 1. AMPHISTEMON.—*Stamens* 6, *all fertile, or* 3 *destitute of anthers, inserted into the rotate perigone: anthers subglobose, about as long as the filament.*

* ♂ *and* ♀ *flowers in simple spikes.*

1. **D. cayennensis,** *Lam.* Stem cylindrical, or angular, usually prickly below; *leaves* mostly *opposite, cordate-roundish, or deltoid,* glabrous, sparingly dotted with pellucid lines, 9-nerved with the exterior pair united at the base; spikes simple: ♂ flowers distant: anthers 6; capsule leathery, elliptical-oblong: *seeds winged at the base.*—D. Berteroana *Kth.*—Tuber "compressed-globose, small;" leaves variable, about 3″ diam.

α. ♂ spikes single in the axils.

β. *rotundata,* Poir. ♂ spikes geminate or fascicled.

HAB. Jamaica!, *March* (β); [French islands! (α); Guiana, equat. Brazil].

2*. **D. bulbifera,** *L.* Stem subcylindrical, bulbilliferous; *leaves alternate, cordate-ovate,* cuspidate, glabrous, devoid of pellucid dots or lines, 9-nerved with the exterior pair united; "spikes simple: ♂ flowers distant: anthers 6; capsule elliptical-oblong: *seeds winged at the base."*—*Wight, Ic. t.* 878. *Desc. Fl.* 8. *t.* 535.—Helmia, *Kth.*—Tuber "globose;" leaves 4″–3″ long, 3″–2½″ broad.—HAB. Naturalized in Antigua!, *Wullschl.*; [cultivated, introduced from East Indies].

** ♂ *flowers in whorled-compound,* ♀ *in simple spikes.*

3*. **D. alata,** *L.* Stem 4-winged, (or angular); *leaves opposite,* cordate-oblong, or cordate-ovate with a spreading, basilar sinus, glabrous, devoid of pellucid lines, 7(–9)-nerved with the exterior pair united; ♂ spikes compound: special ones whorled-fascicled, short, flexuose: flowers distant: anthers 6; capsule leathery, elliptical: *seeds surrounded by a wing.*—*Wight, Ic. t.* 810. *Desc. Fl.* 8. *t.* 537.—Tuber large. From the descriptions of former authors it is still doubtful whether there are not several species comprised under the following forms:

α. Stem 4-winged; "tuber simple" (*Sl. p.* 139, *Roxb., Wight.*)

β. *vulgaris,* Miq. "Stem 4-gonal; tuber palmatifid."—*Tuss. Fl.* 2. *t.* 28.

γ. (?) *altissima,* Lam. "Stem cylindrical (*Sl. p.* 140, *W.*); tuber palmatifid" (*Sl.*) *Plum. Ed. Burm. t.* 117. *f.* 2.

HAB. Cultivated and naturalized in Jamaica, [Haiti!, Portorico!, and French islands! (α), said to be introduced].

*** ♂ *flowers racemose,* ♀ *in compound spikes.*

4*. **D. triphylla,** *L., Jacq.* Stem subcylindrical; *leaves* opposite, or "alternate," 3-*foliolate*: *leaflets* petiolulate, *ovate, pointleted,* glabrous, subcordate, or oblique at the base, 5-nerved; ♂ flowers in simple or simply branched racemes: "3 stamens fertile;" ♀ spikes simply branched; capsule chartaceous, elliptical: seeds "winged at the base" (*Jacq.*).—*Jacq. Ic. Rar. t.* 627.—Tuber "globose;" leaflets 3″ long, 2″ broad; capsule 12‴–14‴ long, 10‴ broad.—HAB. Naturalized in Jamaica!, *March,* [said to be introduced].

Sect. 2. EPISTEMON.—*Stamens* 6, *all fertile, inserted into the infundibular perigone: anthers adnate, much shorter than the filament.*—Leaves alternate.

5*. **D. trifida,** *L.* Stem angular, narrowly winged; *leaves* 3–5-*lobed* beyond the middle, glabrous (or glabrate beneath), dotted with pellucid lines: *middle lobe* 3-*nerved,* ovate-oblong, or oblong-lanceolate, acuminate, lateral semicordate or 2-lobed at the base; ♂ flowers in slender, simple racemes, ♀ in spikes: rhachis hairy.—Leaves 6″–3″ diam.,

long-petioled; capsule still unknown.—HAB. Jamaica!, *Macf.*; [Portorico!, French islands!, Guiana!].

6. **D. Kegeliana,** *Gr.* Stem subcylindrical; *leaves cordate-deltoid,* cuspidate, *glabrous,* membranaceous, 7-*nerved* with the exterior pair united, twice as long as the petiole; ♂ flowers in filiform, simple, or slightly compound racemes: rhachis hairy; ♀ flowers distantly glomerate in spikes; capsule elliptical, chartaceous: *seeds surrounded by a wing.*—Leaves 2″ diam.; capsule 10‴–12‴ long, 8‴–10‴ broad.—HAB. Trinidad!, *Cr.*; [Guiana!].

7. **D. pilosiuscula,** *Berter.* Stem subcylindrical, striate; *leaves subcordate-ovate* (or subcordate-roundish), minutely pointleted, *hairy beneath,* 7–11(–13)-nerved with the exterior nerves cohering, twice–thrice as long as the petiole; [♂ flowers fascicled in simple, filiform racemes: rhachis pubescent]; ♀ flowers single, in long, filiform, hairy spikes; "capsule oblong: [seeds winged at the base"].—Helmia, *Kth.* The characters included in brackets, are taken from *D. remotiflora,* Kth. (*Helmia Ehrenbergiana,* Kth.), which is apparently a continental form, with roundish, more pubescent leaves, and the number of their nerves increased. Leaves 2″–3″ long; ♀ spikes peduncled, often geminate.—HAB. Jamaica!, *Pd., M'Nab.*; [Haiti; the continental form ranges from Mexico to Panama!].

Sect. 3. LYCHNOSTEMON.—*Stamens* 3 *fertile,* 3 *sterile, inserted into the rotate perigone: the fertile 2-fid at the summit, with distant anther-cells.*—Leaves alternate, membranaceous.

8. **D. multiflora,** *Prl.* Glabrous; stem subcylindrical; *leaves cordate-deltoid, cuspidate,* glabrous, 9–11-nerved, with the exterior pair cohering and the veins in a loose network, dotted with minute, pellucid lines: basilar sinus open; ♂ *spikes simply branched below,* filiform: flowers distantly glomerate; *capsule roundish-oval, membranaceous-chartaceous: seeds surrounded by a wing.*—*Plum. Ed. Burm. t.* 117. *f.* 1.—D. altissima, *Sieb. Mart.* (*non Lam.*). D. Sieberi, *Kth.*—Leaves 3″–5″ diam.; capsule 1″ long, 10‴ broad.—HAB. Jamaica!, all coll., common; S. Vincent!, *Guild.*; [Martinique; Venezuela!].

Sect. 4. ALLACTOSTEMON.—*Character of* Lychnostemon, *but no sterile filaments, and anther-cells approximate.*

9. **D. lutea,** *Mey.!* Glabrous; stem cylindrical; *leaves cordate-roundish,* or cordate-deltoid, *cuspidate,* 9–7(–11)-nerved with the primary veins transverse, (rarely dotted with pellucid lines): basilar sinus open; *spikes simple, filiform:* ♂ flowers distantly glomerate; *capsule oblong,* membranaceous: *seeds surrounded by a narrow wing above: wing obovate-roundish at the produced base.*—*Vell. Fl. Plum.* 10. *t.* 124.—D. heptaneura, *Vell.* D. sativa, *Gr. Diosc. Brasil.* (*exclus. Syn. Linn.*). *D. sativa,* L., comprises: 1°, *D. Cliffortiana,* Lam. (H. Cliff. t. 28), which is probably a form of *D. villosa,* L.; 2°, *D. multiflora,* Prl. (ex. syn. Plum. *and* P. Br.); 3°, *D. altissima,* Lam. (ex. syn. Sl.); 4°, the East Indian species, figured by Rheed. 8. t. 51; and 5°, the contested plant, quoted from Rumph. 5. t. 180.—Leaves 3″–6″ diam.; capsule 10‴ long, 5‴ broad: seeds (the wing included) 3‴–4‴ long: wing 1½‴ diam. at the base, ⅓‴–¼‴ above.—HAB. Antigua!, *Wullschl.*; Trinidad!, *Cr.*; [Cuba! to Brazil!].

2. RAJANIA, *L.*

Samara one-seeded by abortion: seed flat, wingless.—Habit of *Dioscorea.*

10. **R. ovata,** *Sw.!* *Leaves ovate,* shortly acuminate or pointleted, rounded-truncate or subcordate at the base, 5–7-*nerved,* long-petioled; flowers pedicellate, ♂ "compound-racemose with minute branches;" *samara oblong,* obliquely rounded at the summit: *wing much longer than the seed.*—Leaves 2″–3″ long; samara 12‴–14‴ long, about 4‴ broad above.—HAB. Jamaica!, *Pd.,* Manchester; [Haiti!].

11. **R. pleioneura,** *Gr. (n. sp.).* *Leaves cordate-roundish* (or cordate-ovate), deltoid-pointed or cuspidate, 9-*nerved,* twice as long as the petiole: *basilar sinus deep;* flowers pedicellate, ♂ compound-racemose with minute branches; *samara semiobovate-oblong, bluntish,* pointed at the incurved base: *wing thrice as long as the seed.*—R. hastata, *Kth.?*

(non L.). *R. hastata*, L. (Cuba) has smaller samaræ, and is distinguished by the subsessile, distantly glomerate, ♂ flowers, and by the leaves.—5′–6′ high, suffruticose; leaves 5″–2″ diam.; racemes often fascicled-geminate, usually exceeding the leaves; special ♂ racemes 3–8-flowered, 2‴–4‴ long, flexuose: pedicels hairy or glabrescent, as long as the perigone; ♂ perigone ⅔‴ long, infundibular: segments oblong, bluntish; stamens 6, included, inserted into the perigone: anthers didymous, as long as the filaments; ♀ flowers in simple racemes; samara 8‴ long, 3‴ broad above the semilunar seed.—HAB. Dominica!, *Imr.*, common in woods; [Cuba and Portorico, *ex synon. Kth.*].

CXLI. IRIDEÆ.

Perigone coloured, of 3 exterior, and 3 interior divisions. *Stamens* 3, alternate to the inner perigone: anthers extrorse. *Ovary* inferior, compound: cells many-ovulate. *Pericarp* capsular. *Embryo* axile in fleshy albumen.—Leaves *mostly equitant, distichous, parallel-nerved.*

1. CIPURA, *Aubl.*

Limb of perigone 6-partite, interior segments usually smaller. *Stamens* distinct, inserted into the perigone, "alternate to the stigmas:" anthers erect. *Style* 3-partite.—Bulbous herbs; *most* leaves *rosulate;* spathe 2-*leaved, compressed.*

1. **C. paludosa,** *Aubl.* Leaves linear-acuminate; *flowers* few, *glomerate, approximate to and much exceeded by the single, erect leaf of the stem.*—Leaves 6″–12″ long, all exceeding the inflorescence; flowers pale-blue, alternate: perigonial limb 6‴–8‴ long.—HAB. Trinidad!, *Lockh.*, *Cr.*, common in savannahs; [Venezuela!, Guiana!, Brazil!].

2. **C. martinicensis,** *Kth.* Leaves lanceolate-linear, acuminate: flowers few, glomerate, scarcely exceeded by the leaves: *spathe distant from the single short leaf of the stem.* —*Jacq. Amer. Pict. t.* 10.—Iris, *L.*—1½′–2′ high; rosulate leaves as long as or shorter than the stem: stem-leaf 3″–5″ long; flowers yellow: perigonial limb 8‴–10‴ long.—HAB. Antigua!, *Wullschl.*, Dominica, *Imr.*, on grassy hills; [French islands! to New Granada].

3. **C. plicata,** *Gr.* Leaves lanceolate-acuminate; *flowers in geminate, unequal fascicles: the fascicles approximate to and exceeded by the uppermost leaf;* perigonial divisions subequal.—Moræa, *Sw.* Marica, *Curt.* Sisyrinchium latifolium, *Ait.*—2′–3′ high; rosulate leaves 1″ broad, or narrower, nearly as long as the stem, uppermost 10″–12″, longer peduncle 2″–3″ long; flowers white—HAB. Jamaica!, *Waters*, in hilly pastures of the western districts (*Sw.*); Dominica!, *Imr.*; S. Vincent, *Guild.*

CXLII. HÆMODORACEÆ.

Perigone coloured, of 6 divisions. *Stamens* 6–3: anthers introrse. *Ovary* compound: style simple. *Embryo* minute, in amylaceous albumen.—Herbs; leaves *mostly equitant, parallel-nerved.*

1. XIPHIDIUM, *Aubl.*

Perigone 6-leaved. *Stamens* 3, hypogynous, opposite to the interior leaflets of the perigone: anthers erect. *Capsule* 3-celled: cells many-seeded.—Stem *leafy below;* raceme *terminal, compound;* flowers *white or blue, one-sided along its branches.*

1. **X. floribundum,** *Sw.* Leaves oblong-lanceolate, or oblong, acuminate, often distantly muricate at the edge, glabrous; panicle pubescent; perigonial leaflets oblong-lanceolate, glabrescent.—*Sw. Fl. t.* 2. *infer. analyt.*—X. albidum, *Lam.* X. giganteum, *Lindl.*: a broad-leaved form.—1′–2′ high; leaves 1″–2″ broad; flowers 8–10 along the branches of the panicle: perigone 4‴ long.—HAB. Jamaica!, *Pd.*; S. Kitts, Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Mexico to Brazil].

CXLIII. PONTEDERIACEÆ.

Perigone coloured, of 6 divisions. *Stamens* 6–3, unequal, inserted into the perigone: anthers introrse. *Ovary* free: style simple. *Embryo* axile in amylaceous albumen.—Aquatic herbs; leaves *usually provided with a blade.*

1. HETERANTHERA, *R. P.*

Perigone salver-shaped: lobes little unequal. *Stamens* 3: two upper filaments shorter. *Capsule* incompletely 3-celled, many-seeded.—Low, floating or creeping herbs; leaves *rosulate:* petiole *much longer than the blade* (*rarely the latter suppressed*); spathe 1-*few-flowered at the sheathing base of the petiole;* flowers *fugacious.*

1. **H. reniformis,** *R. P.* *Leaves cordate-reniform;* spathe 3–5-flowered; flowers white; inferior anther larger.—Leaves 9‴–12‴ diam.; lobes of the perigone 2‴ long.—HAB. Caribbean islands; [Guadeloupe!; United States! to Buenos Ayres!].

2. **H. limosa,** *V.* *Leaves ovate,* or ovate-oblong, *blunt, truncate or rounded at the base;* spathe 1-flowered; flower blue; anthers subequal.—*Sl. t.* 149. *f.* 1.—Pontederia, *Sw.*—Leaves 1″–1½″ long; lobes of the perigone 5‴–6‴ long; filaments broader than in the preceding, the third little longer.—HAB. Jamaica!, *Macf., Dist., March;* [United States! to Venezuela].

2. EICHHORNIA, *Kth.*

Perigone infundibular: tube dehiscent at the middle, along the anterior claw: lobes unequal, interior broader. *Stamens* 6: three inferior longer, incurved. *Capsule* 3-celled, many-seeded: seeds costate.—Large, aquatic herbs: leaves *emerging;* inflorescence *from a sheathing petiole, and supported by a spathe, panicled, or racemose;* flowers *variegated;* bracts *obsolete.*

3. **E. tricolor,** *Seub.* Stem simple, one-leaved above; *leaves deeply cordate-deltoid, pointleted,* exceeded by the panicle, lowest rosulate; spathe foliaceous, lanceolate-linear, a little distant from the base of the petiole; *flowers distant* along the simple, spreading branches of the panicle, inferior pedicellate, superior subsessile; perigone variegated-blue: lobes obovate and spathulate.—*Mart. Fl. Bras.* 8. *t.* 11.—Pontederia paniculata, *Spreng.*—Stem-leaf 3″–5″ diam., as long as the petiole; sheath 1″–1½″, panicle 5″–8″, flowers 8‴–10‴ long; capsule ovate-lanceolate.—HAB. Jamaica!, *Macf., Dist., Pd., March,* in ditches, Westmoreland; [Brazil].

4. **E. azurea,** *Kth.* Stem branched: *leaves roundish,* (or oval), *very blunt, contracted into the much longer, tapering petiole:* spathe roundish, sheathing-complicate, a little distant from the base of the petiole; *flowers large, geminate, in a simple raceme,* one in the pair pedicellate, the other sessile; perigone pale-blue with a yellow blotch: interior lobes obovate-roundish, crenulate.—*Schlechtend. Ic. in Haller, Abhandl. VI.*—Pontederia, *Sw.* T. Schlechtendal's doubts on Swartz's species are in contradiction with Seubert's remarks on the Brazil *Pontederia azurea,* the correctness of which I have occasion to confirm by the comparison of Uruguay specimens, and of the quoted figure with the plant collected in Swartz's locality. Stem stout, "floating;" leaves variable, the larger 3″–4″, perigone 2″ diam.—HAB. Jamaica!, *Pd.,* behind the ferry; Trinidad, *Cr.;* [Panama! and Guiana! to Uruguay! and northern Buenos Ayres].

CXLIV. BROMELIACEÆ.

Calyx of 3, corolla of as many divisions. *Stamens* 6. *Ovary* 3-celled. *Embryo* minute, in the top of amylaceous albumen, or naked beyond its extremity.—Herbs, *often epiphytical;* leaves *rosulate, rigid, parallel-nerved, usually channelled.*

The Pine-apple, or *Ananas,* is the syncarpium of *Ananassa:* the eatable fruits of *Bromelia* and *Nidularium Karatas* are called wild *Ananas.* Of several the fibre is used, *e.g.* of *Nidilarium Karatas* and *Bromelia Pinguin.*

TRIBE I. *ANANASSEÆ.—Ovary inferior; fruit baccate, or indehiscent.*

1*. ANANASSA, *Lindl.*

"*Petals* distinct, 2-scaled within: scales tubular. *Stamens* epigynous: anthers erect. *Stigmas* straight." *Syncarpium* formed of the spicate inflorescence, becoming fleshy, crowned by a tuft of leaves.—Spike *supported by rosulate leaves.*

1*. **A. sativa,** *Lindl.* Leaves spiny-serrate; bracts ovate, pointed, about as long as the flowers.—*Red. Lil.* 8. *t.* 455. *Desc. Fl. t.* 36, 341.—HAB. Naturalized and cultivated in the West Indies, *e.g.* Jamaica, Antigua!, *Wullschl.*, Trinidad; [South America].

2. NIDULARIUM, *Lemair.*

(Karatas, *Plum.*)

Corolla tubular, naked within. *Stamens* inserted into the throat of the corolla-tube: anthers incumbent. *Stigmas* twisted. *Berry* succulent, many-seeded.—Flowers *mostly in a sessile head, surrounded by the channelled bases of the leaves.*

2. **N. Karatas,** *Lemair.* Leaves large, acuminate, dentate, with distant, incurved spines; head sessile, leafless; calyx-tube cylindrical, furfuraceous-woolly; corolla as long, rosy: lobes oblong-lanceolate, half as long as the tube.—*Jacq. Amer. Pict. t.* 260. *f.* 24.: *analyt. Jacq. H. Vindob.* 1. *t.* 31, 32; 3. *t.* 79.—Bromelia, *L.*—Leaves 6′–8′, calyx-tube 1″, corolla 1½″ long.—HAB. Jamaica; Antigua!, *Wullschl.*; [Cuba to Guiana!].

3. BROMELIA, *L.*, *Lindl.* (1827).

(Agallostachys, *Beer.*)

Petals distinct, naked within. *Stamens* epigynous: anthers erect, sagittate. *Stigmas* straight, short. *Berry* succulent, many-seeded.—Stem *bearing leaves;* flowers *in a compound, racemiform spike:* inferior *or all* common bracts *foliaceous.*

3. **B. Pinguin,** *L.* Leaves narrowly acuminate, dentate with stout, incurved spines, glaucous beneath; spike whitish-tomentose, partial ones 4–5-flowered; calyx slender: lobes lanceolate-linear, bluntish; petals red, shortly exserted, spathulate-linear.—*Tuss. Fl.* 4. *t.* 22.—Rosulate leaves 5′–6′, panicle 1′, flowers 2″ long; berry ovoid.—HAB. Jamaica!, *Wils.*, *Al.*, common in savannahs and rocky hills, used for making fences; Antigua!, *Wullschl.*, Barbadoes; [Cuba! to Guiana and New Granada].

4. CHEVALLIERA, *Gaudich.*

Petals distinct: claw persistent, hard, dilated towards the base. *Stamens* 3, epigynous, alternate with the petals, their filaments hard below, persistent: 3 inserted above the claw of the petals: anthers incumbent. *Stigmas* straight, connivent. *Berry* many-seeded.—Stem *bearing usually foliaceous bracts;* leaves *spiny-serrate;* flowers *in spikes;* bractlets *and* calyx-lobes *awned.*

The determination of this genus rests upon Gaudichaud's figures only, chiefly on *C. ornata*, (Atlas Bonite, t. 62): his fig. 12 shows exactly the peculiar structure of the early withering petals, the hard claws of which, having lost their lamina, together with the anthers, end with a cut appendage (the residue of the former). The ovules however are not beaked in our species, and its petals (showing tubular scales in Gaudichaud's figures) are probably naked. *Bromelia longifolia*, Rudg. (non Lindl.) is, from its figure, perhaps another congener.

4. **C. lingulata,** *Gr.* Leaves oblong, spiny-mucronate at the bluntish top, green; *stem* stout, *terminated by a compound spike:* special spikes cylindrical, distant, subsessile or shortly peduncled, much exceeding the bract: flowers spreading, approximate, or somewhat distantly clustered; calyx rigid, exceeding the subulate bractlet: lobes obliquely obovate-roundish, connivent, longer than their black, terminal awn; petals "whitish:" lamina shortly exserted.—*Plum. Ed. Burm. t.* 64. *f.* 1.: bad.—Bromelia, *L.* Hoplophytum, *Beer.*—Leaves 1½′–3′ long, 2″–4″ broad; inflorescence 6″–18″, special spikes 4″–8″, lanceolate-

linear bracts 2″–1″, bractlets 4‴–3‴, calyx 6‴ long.—Hab. Antigua!, *Wullschl.*; [Guadeloupe!; Guiana!, on trees].

5. ÆCHMEA, *R. P.* (*non Brongn.*)
(Hoplophytum, *Beer.*)

Petals distinct, suberect, 2-scaled within, perigynous (rarely epigynous) with the alternate stamens: the opposite 3, epipetalous stamens distant from their base. *Anthers* incumbent. *Stigmas* convolute. *Berry* "dry," many-seeded.—Scape with sterile, coloured bracts below the inflorescence; leaves *spiny-serrate*; inflorescence *mostly compound*: bractlets *persistent, awned or mucronate.*

I follow Mr. Martins and Sir W. Hooker in regarding *Hoplophytum* of Beer and C. Koch as congeners of *A. paniculata*, R. P., while *Lamprococcus*, Beer (*Æchmea*, Brongn., *e.g. A. fulgens, ej.*) is another genus, distinguished by the stamens all perigynous, the stigmas erect, and the coloured, 3-dentate calyx devoid of a bractlet. If however Ruiz and Pavon's genus (unknown to me but by their figure) should prove distinct too, the correct name of *Hoplophytum* would be *Hohenbergia*, Schult. (*Acanthostachys* having been separated from it): even *Pironneaua* is an older name than *Hoplophytum*, and exactly the same genus, which, though not described, has been fully explained by Gaudichaud's excellent figures.

Sect. 1. Pironneaua, *Gaud.*—*Calyx-tube produced beyond the ovary, lobes awned. Petals perigynous, connivent: scales much distant from their base, at the origin of the epipetalous stamens. Ovules beaked, hanging from the summit of the cell.*—Inflorescence terminal, branched: flowers in peduncled, imbricate spikes, heads or clusters, each enclosed by an awned, persistent bractlet: peduncles supported by bracts.

5. **A. distans,** *Gr.* (*n. sp.*) Leaves oblong, slightly enlarged at the entire base, spiny-mucronate at the rounded top, pale-green; bracts lanceolate-acuminate; *peduncles distant*, horizontally spreading, superior shorter; *spikes ovoid-oblong*, glabrous: bractlets broadly ovate, many-nerved, rigid, awned-cuspidate, as long as the calyx; calyx-lobes oval-roundish, spiny-awned; petals shortly exserted, "white," 2-scaled above the middle of the claw: lamina elliptical.—Allied to *A. glomerata* (*P. Gaudich.*), but bracts 4″–1″, lower peduncles often 4″, spikes 1″–2″ long. Scape slender, several feet high, glabrescent: internodes usually 1″–2″ long; leaves 1½′–2′ long, 2″–3½″ broad; flowers about 6‴ long.—Hab. Jamaica!, *Pd.*, on trees, near Dolphin's peak; [Cuba!].

Sect. 2. Hohenbergia, *Schult.* (*excl.* H. strobilacea).—*Calyx-tube produced beyond the ovary: lobes awned. Petals perigynous, connivent: scales at their base distant from the origin of the epipetalous stamens. Ovules naked, or shortly mucronate.*—Inflorescence terminal, branched: flowers in sessile, or shortly peduncled spikes, heads, cymes or clusters: each supported by a persistent, awned or mucronate bractlet.

6. **A. aquilega,** *Gr.* Leaves oblong, subequal at the base, acuminate, pale-green; bracts long, oblong-lanceolate; *heads spicate–racemose, large, hemispherical*, glabrous, superior contiguous, subsessile, inferior gradually more distant, about as long as their compressed peduncle: bractlets broadly ovate, keeled, mucronate, equalling the flower; calyx-lobes ovate-lanceolate, shortly awned; petals spathulate, shortly exserted, "yellow."—*Reichenb. Exot. t.* 239, 240. Bromelia, *Salisb. sec. C. Kch.* B. paniculigera, *Reichenb.* (*non Sw.*). B. capituligera, *Reichenb.* Hoplophytum paniculatum, *Beer.* H. bracteatum, *C. Kch.* (*exclus. syn. Sw.*).—Scape stout, 2′–3′ high; leaves 3′ long, 2″ broad; inferior bracts 6″, raceme 6″–8″ long; heads 1″ diam.—Hab. Jamaica (*Salisb.*); [Venezuela!, Guiana!, on trees].

7. **A. bracteata,** *Gr.* Leaves oblong, subequal at the base, mucronate, pale-green beneath; bracts oblong-lanceolate, as long as the partial spikes, but reduced and subulate in the upper part of the rhachis; *spike compound*, broad, at first nodding: *partial spikes contiguous*, numerous, subequal, spreading, subsessile, *villous*: bractlets ovate-oblong, convex on the back, many-ribbed, mucronate, exceeded by the flower; calyx-lobes ovate, shortly awned; petals spathulate, shortly exserted, "blue."—Bromelia, *Sw.*: I exclude Hanston's doubtful figure, which represents a Mexican species with distant lower spikelets. Hoplophytum polystachyum, *Beer?*—Scape stout, 2′–3′ high; leaves 3′–1½′ long, 2″–1½″ broad;

spike 6″–14″, inferior bracts and partial spikes 4″–3″ long; bractlets at length spreading, 4‴, flowers 8‴–6‴ long.—HAB. Jamaica! (*Sw.*); S. Vincent!, Guild.; Trinidad!, *Cr.*, at Matura Beach.

8. **A. paniculigera,** *Gr.* Leaves oblong, abruptly enlarged at the base, green; bracts oblong-lanceolate, much longer than the cymes, reduced between them; *panicle long, raceme-miform*, downy, or glabrescent: *cymes* or scorpioid spikes *numerous*, sessile along the rhachis, all conform, or the uppermost reduced to single, sessile flowers: *flowers* in each cyme *distant from each other*, lateral, sessile: bractlets small, subulate, awned, much shorter than the calyx-tube; calyx-lobes ovate, terminated by a short, recurved awn; petals spathulate, exserted, "purple."—*Bot. Mag. t.* 3304. Bromelia, *Sw.* (*ex descr.*, *non Sw. herbar.*). Billbergia purpureorosea, *Hook.* (Hoplophytum, *Beer*).—Scape several feet high; leaves 2′–3′ long, 2½″–3″ broad at the middle, 4″–6″ at the base; raceme 1′–2′ long, 2″–3″ broad: inferior scarlet bracts 4″–6″, cyme-internodes 4‴–8‴, calyx 5‴–8‴ long.—HAB. Jamaica!, *Pd.*, on rocks and trees, S. Elizabeth; [Venezuela!].

Sect. 3. HAPLÆCHMEA.—*Calyx-tube produced beyond the ovary: lobes mucronate. Petals perigynous, connivent: scales fimbriate, distant from their base, at the origin of the epipetalous stamens, but below the middle of their claw.*—Spike terminal, simple: bractlets small, subulate, awned.

9. **A. nudicaulis,** *Gr.* Leaves oblong, subequal at the entire base, mucronate, dull-green beneath; bracts oblong-lanceolate, acuminate, all distant from the spike; *spike simple*, often lax, nodding, downy: flowers single, distant (or clustered): bractlet much shorter than the calyx-tube; calyx-lobes oblong, blunt, mucronate; petals spathulate, exserted, yellow.—*Plum. Ed. Burm. t.* 62.—Bromelia, *L.* Billbergia, *Lindl.* Hoplophytum, *C. Kch.* Billb. lutea, *Schult.* (Bromelia, *Mey. Esseq.!*). Billb. pyramidata, *Beer.*—Leaves 1½′–2′ long, 1½″–3″ broad; scape 1½′–2′, rosy bracts 3″–2″, flowers 8‴ long.—HAB. Trinidad! (*Sch.*); [Cuba!, on rocks and trees; Guiana!, Brazil].

6. MACROCHORDIUM, *Vries.*

Petals distinct, suberect, bearing 2 cut scales at the middle within, epigynous with the alternate stamens: the opposite 3, epipetalous stamens inserted between the scales. *Anthers* erect, slightly cohering. *Stigmas* straight, short. *Berry* dry, many-seeded.—Scape *with sterile bracts below the dense, simple spike;* leaves *spiny-serrate;* flowers *supported by a clasping, woolly, awned bractlet;* calyx-lobes *fleshy, blunt;* corolla *exserted, becoming black.*

10. **M. melananthum,** *Beer.* *Leaves* oblong, *rounded at the top, erect*, green; spike short, oblong-cylindrical, blunt; petals purple-black, spathulate, blunt.—*Bot. Reg. t.* 766.—Bromelia, *Lindl.* Billbergia clavata, *Lindl.*—Leaves 1½′–2′ long, 1½″–2½″ broad: spines blackish; scape about 2′, spike 1½″–2″, flowers 6‴–8‴ long.—HAB. Trinidad!; [Guiana!, at the base of trees].

TRIBE II. *TILLANDSIEÆ.—Ovary superior, or half-inferior; fruit capsular.*

7. BROCCHINIA, *Schult.*

Petals distinct at the naked base, cohering at the middle with the monadelphous, hemi-epigynous stamens. "*Capsule* half-inferior, introrsely dehiscent at the free summit: seeds attached at the middle, with a naked appendage at both ends."—Stem *stout, leaved at the base, divided into a large, spreading panicle;* leaves *entire, rigid, devoid of scaly down, somewhat pungent at the pointed summit;* petals *little exserted.*

11. **B. Plumierii,** *Gr.* Leaves oblong-lanceolate, acuminate, equal at the base: branches of the panicle spiciform, nodding: flowers thrice as long as their internodes; calyx-lobes lanceolate-acuminate, half as long again as the bractlet, very little exceeded by the spathulate-linear petals.—Bromelia paniculigera, *Sw. herbar.* (*non Fl. Ind. Occ.*). Tillandsia paniculata, *L.?:* habit of *Plum. Ed. Burm. t.* 237, but too badly figured, to be quoted with certainty.—Several feet high; lower leaves 1′ long, 1½″–1″ broad, convolute at the pungent

summit, pale-green, the other abruptly decrescent; panicle 1½′ long: branches about 1″ distant from each other, 4″–3″ long, branched again at the base; flowers somewhat deflexed, pluriserial; bractlets lanceolate, a little powdery by distant scales, 6‴ long; calyx 8‴–10‴ long: tube short; stamens included: anthers oblong, erect; stigmas convolute.—HAB. S. Kitts!, *Sw.*; Dominica!, *Imr.*; [Haiti: *ex syn. L.*].

8. PITCAIRNIA, *L'Hér.*

Petals distinct, usually with a single scale at the base within. *Stamens* half-epigynous: anthers erect, sagittate. *Stigmas* convolute. *Capsule* 3-coccous: cocci dehiscent within: seeds ∞, fusiform with a short, naked appendage at both ends.—Stem *leaved at the base*; leaves *long-tapering at the summit, exterior less developed*; inflorescence *terminal, racemose, or spicate.*

12. **P. bracteata,** *Ait.* Leaves linear-acuminate, entire (except at the base), furfuraceous beneath; *raceme* dense, *spiciform*, downy; *calyx much longer than the pedicels, about as long as the large bracts*, half as long as the ringent, lurid-red (or yellow) corolla; petal-scale basilar, reniform-emarginate, entire; anthers much shorter than the filaments.—*Redant. Lil. t.* 74; *Bot. Mag. t.* 2813.—P. latifolia, *Red.* (*non Ait.*). P. sulfurea, *Andr.*: the yellow-flowered form.—Leaves 10‴–18‴ broad; corolla about 20‴, anthers 4‴–5‴ long. —HAB. S. Vincent!, *Guild.*; [Guadeloupe!, Mexico!].

13. **P. bromelifolia,** *L'Hér.* Leaves linear-acuminate, furfuraceous beneath; *raceme lax*, glabrescent; *bracts as long as or shorter than the pedicel*; *calyx about as long as the pedicel*, ⅓(–½) as long as the rosy, ringent corolla; petal-scale basilar, reniform, entire; anthers half as long as the filament; appendage of the seed acuminate.—*L'Hér. Sert. t.* 11.—Very variable, and the origin of several garden-species; 2′–3′ high; flowers 20‴–24‴, pedicels 4‴–10‴, anthers 6‴–8‴ long.

α. Leaves spiny-denticulate, about 6‴ broad; inferior bracts about as long as the pedicel.

β. platyphylla, Schrad. Leaves entire, except at the base, 6‴–8‴ broad; most bracts shorter than the pedicel; corolla thrice as long as the calyx.—*Bot. Reposit. t.* 322.

γ. graminifolia. Leaves entire, 4‴ broad; bracts much shorter than the pedicel; corolla twice as long as the calyx.

HAB. Jamaica!, *Al.*, *Pd.*, *Bancr.* (*α*), *Lane* (*γ*), on banks and rocks; [Cuba! (*β*) to Venezuela!].

14. **P. angustifolia,** *Ait.* Leaves linear-acuminate, spiny-denticulute, furfuraceous beneath; *raceme lax*, often branched below: *bracts* short, *about as long as the pedicel*; *calyx longer than the pedicel*, ⅓(–½) as long as the red, ringent corolla; petal-scale distant from its base, dentate; [appendage of the seed truncate].—*Redout. Lil. t.* 76.—P. Redoutiana, *Schult.*—Leaves 4‴–12‴ broad; corolla about 20‴ long; the character of the seed, having been taken from a scarlet-coloured, narrow-leaved Guiana specimen, is to be confirmed.—HAB. Antigua!, *Wullschl.*, Dominica!; [S. Croix; Guiana!, on trees].

9. TILLANDSIA, *L.* (*exclus. spec.*)

Petals distinct. *Stamens* hypogynous, or nearly so, distinct. *Style* filiform: stigmas 3, contiguous, or spreading. *Capsule* septicide: valves at length flattish, endocarp often loosened: seeds ∞, rarely few, fusiform: funiculi long, erect, usually dissolved into hairs (the pappus): pappus spreading from their base. *Embryo* free below the albumen.—Leaves *entire*; flowers *in spikes, rarely solitary, supported by a bractlet*; sepals *nearly distinct, or 2 of them united.*

No generic characters are to be obtained from the adhesion of the ovary-base (appearing in *T. flexuosa* as well, as it has been stated to be in the original Vriesea-species), the corolla-scales, the direction and the torsion of flower-parts: natural sections however result from the inflorescence, the leaves, their covering, and less so from structural characters, not yet verified in all species. The stigmas need still to be compared in life. I retain such generic distinctions as are based upon cohesion of parts, but even these are less satisfactory, while the primary division of *Tillandsieæ* depends upon the dehiscence of the capsule, peculiar in the best genera, and upon the structure of the seed. The pappus presents no sectional characters: all our species are provided with a pappus, except *T. pulchella*, but I observed a

filiform, not dissolved funiculus in two continental species of *Platystachys*, in a new section (*Conostachys*), and in two *Anoplophyta*.

Sect. 1. PLATYSTACHYS, *C. Kch.—Spike distichous. Petals naked within, convolute below, erect, or spreading at the summit. Filaments spirally twisted above: anthers incumbent.*—Stem leaved below, bracteate above, central; *leaves lepidote*, rarely green, *narrowly acuminate*, often subulate at the base.

* *Flowers and capsules approximate.*

15. **T. setacea,** *Sw.! (non Hook.). Leaves convolute-filiform*, little or gradually dilated at the base, suberect, as long as or exceeding the stem; *spike* compressed, *simple or with a few* short, appressed *branches at the base: bractlets* imbricate-distichous, *lepidote, ovate-oblong, pointed*, as long as the calyx; sepals 3, half as long as the corolla; petals "blue," spathulate, spreading at the summit; anthers oblong, blunt; stigma-lobes spreading, blunt; capsule twice as long as the bractlet.—*Sl. t.* 122. *f.* 1. *Plum. Ed. Burm. t.* 238. *f.* 2.—T. tenuifolia, *L.* (*exclus. syn. Jacq.*) Diaphoranthema versicolor, *Beer.*—8″–1½′ high; spike 2″–3″, its branches 1″, corolla 1″ long.—HAB. Jamaica!, *Sw., Pd., M'Nb., Wullschl.*, on trees; Trinidad!, *Sch.*; [Cuba! to Venezuela!].

16. **T. compressa,** *Berter.* Leaves lanceolate-linear, subulate at the base, rigidly erect, convolute, little shorter than the stem; *spike flat-compressed, large, simple: bractlets little lepidote, broadly ovate, pointleted* with a short, incurved-erect point, imbricate-distichous, exceeding the calyx; sepals about half as long as the corolla, 2 united to ⅓; petals "white, bluish above," erect, convolute, linear; anthers acuminate, half-exserted; stigmas clavate, convolute.—*Bot. Mag. t.* 3275.—T. setacea, *Hook.* (*non Sw.*).—1′–1½′ high; spike 6″ long, 2″ broad: bractlets "yellowish with a red margin," 1½″, corolla 2½″ long.—HAB. Jamaica!, *Pd., Wullschl.*; S. Anns, on trees.

17. **T. fasciculata,** *Sw.* Leaves linear-acuminate, subulate at the base, spreading or recurved, convolute, about as long as the stem; *spike compound*, compressed: *branches* 3–8, *approximate, nearly as large as the central spike*, sessile: bractlets imbricate-distichous, ovate-oblong or ovate, pointed, as long as the calyx; sepals half as long as the corolla, 2 united to ¾; petals blue, erect, convolute, linear, pointed; anthers blunt, exserted; stigmas convolute; capsule twice as long as the bractlet.—*Catesb. Carol.* 2. *t.* 89.—T. havanensis, *Jacq.* (*Amer. Pict. t.* 94): a scarcely doubtful synonym, but the leaves are narrower at the base, the capsules longer-exserted. T. polystachya, *Jacq.* (*non L., Sw.*). Platystachys digitata, *Beer.*—1′–2′ high; spikes 2″–6″ long: bractlets red, variable in size, 6‴–12‴ long.—HAB. Bahamas!, *Swains.*; Jamaica!, *Pd.*, on trees and rocks along the sea; Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba! to French islands!].

** *Flowers approximate; internodes elongating between the bracts in fruit.*

18. **T. angustifolia,** *Sw.!* Leaves linear from a subulate base, convolute, curved, about as long as, or longer than the stem, lepidote; *spike compound: lateral spikes shorter than the central:* bractlets imbricate-distichous, oblong-lanceolate, pointed, *little exceeding the calyx*, in fruit thrice as long as their internodes; *sepals* half as long as the corolla: 2 *united to the middle:* lobes blunt; petals erect; *capsule little longer than the bractlet.*—1′–2′ high; central spike 4″, lateral 1½″–2″ long, (variable in number and size of bracts); bractlets glabrous, 8‴, calyx 6‴, capsule 10‴–12‴ long.—HAB. Jamaica!, *Sw.*, on trees; [Cuba! to Venezuela!].

19. **T. canescens,** *Sw.!* Leaves linear from a subulate base, convolute, suberect, or spreading, about as long as the stem, lepidote; *spike compound*, (or simple): *lateral spikes few, approximate*, about as long as the central: *bractlets* imbricate-distichous, oblong-lanceolate, pointed, *equalling the calyx*, in fruit 4 times as long as their internodes; *sepals* half as long as the corolla, bluntish, *all* 3 *distinct*; petals "red," erect, convolute, linear-lanceolate, bluntish; *capsule twice as long as the bractlet.*—8″–15″ high; spikes 1″–2″ long: bractlets glabrous, 6‴, sepals 6‴, capsule 12‴ long.—HAB. Jamaica!, *Sw., Pd.*, on trees.

20. **T. Balbisiana,** *Schult.* Leaves lanceolate-linear from a subulate base, convolute, recurved, exceeded by the stem, lepidote; *spike compound*, compressed: *lateral spikes* 3–8,

appressed, alternate, little shorter than the central: *bractlets* imbricate-distichous, polished, oblong-lanceolate, *acuminate, keeled, little exceeding the calyx,* thrice as long as their internodes; *sepals* exceeding half the corolla, bluntish, *all* 3 *distinct;* petals "violet," erect, convolute, spathulate-linear; stigmas exserted, "blunt, ciliate;" "capsule exserted."—1′–1½′ high; spikes 3″–2″, bractlets 10‴, sepals 8‴–9‴, petals 15‴ long.—HAB. Jamaica!, *Wullschl., Pd.,* on trees, peculiar to the plains, Manchester, Westmoreland; [Cuba!].

21. **T. bulbosa,** *Hook.!* *Leaves* convolute-filiform, minutely lepidote, greenish, *the rosulate abruptly dilated* into the roundish sheaths of the bulbous stem-base, flexuose, uppermost exceeding the spikes; *spikes* 5–8 (–1), *subequal, approximate, spreading: bractlets* imbricate-distichous, oblong, *pointed, exceeding the calyx,* 3–6 times as long as their internodes; *sepals* shorter than half the corolla, *all* 3 *distinct;* petals "violet, white at the point," erect, recurved at the summit, convolute, spathulate-linear; anthers exserted; stigmas spreading, "ciliate at the truncate, dilated summit;" *capsule half as long again as the bractlet.*—*Bot. Mag. t.* 4288.—Platystachys, *Beer.* P. erythræa, *Beer.*—8″–12″ high, 2″ thick at the bulb; spikes 3″–2″, bractlets 8‴–9‴, sepals 6‴–7‴, petals 15‴, capsule 12‴ long.—HAB. Jamaica!, *Pd., Wullschl.,* on trees, S. Mary's, Manchester; Trinidad!, *Sch.;* [Guiana! Brazil!].

22. **T. laxa,** *Gr.* (*n. sp.*). Leaves lanceolate-linear, from an ovate-oblong base, convolute, straightish, suberect, as long as the stem, lepidote; *spike compound,* (or simple): *branches lax,* subdistant, *alternate,* about as long as the central spike: *bractlets* distichous, *twice as long as their internodes,* oblong-lanceolate, shortly acuminate, membranaceous at the margin, *little exceeding the calyx; sepals* shorter than half the corolla, *all* 3 *distinct;* petals violet, erect, convolute, linear-lanceolate, pointed; anthers exserted; stigmas convolute; *capsule as long as the bractlet.*—1½′ high; leaves 2″ above the base 8‴ broad; spikes 6″–3″, bractlets 9‴–11‴, calyx 6‴–8‴, corolla 15‴–20‴, capsule 10‴ long.—HAB. Jamaica!, *Wullschl.,* Manchester; [Cuba!].

23. **T. pruinosa,** *Sw.!* *Wholly covered with spreading white scales;* leaves convolute-filiform from a subulate base, recurved, as long as the low stem; *spike simple: bractlets* distichous, approximate, ovate-oblong, pointed, *almost twice as long as the calyx;* sepals half as long as the corolla, all 3 distinct; petals blue, convolute, spreading at the summit, spathulate above the claw, shortly exserted from the bractlet; stigmas convolute.—4″–6″ high, leafy; spike 2″–3″, bractlets 1″, sepals 7‴–8‴, petals 14‴–16‴ long.—HAB. Jamaica!, *Sw.,* on trees; [Cuba! to Venezuela!].

*** *Flowers distant: bractlets below their short thickish pedicel.*

24. **T. flexuosa,** *Sw.* Leaves linear-acuminate, subulate at the base, recurved, shorter than the stem, lepidote with minute scales, or greenish, transversely zonate beneath; spike few-branched, or simple: branches long, spreading: *bractlets* distichous, *spreading, oblong-lanceolate, bluntish,* as long as or shorter than the channelled internodes, $\frac{3}{4}$–$\frac{5}{6}$ *as long as the calyx* (its pedicel included); sepals 3, half as long as the corolla; *petals rosy,* linear, spreading at the summit; anthers exserted; capsule twice–thrice as long as the calyx.—*Jacq. Amer. Pict. t.* 93.—T. tenuifolia, *Jacq.* T. aloifolia, *Hook.!*—1½′–3′ high; "bractlets and calyx rosy," the former 10‴–12‴ (–9‴), the latter 12‴ long; ovary-base sunk into the pedicel.—HAB. Jamaica!, *Pd.,* on logwood-trees, in hot savannahs; Trinidad; [Venezuela!, Guiana!].

25. **T. utriculata,** *L.* Leaves linear-acuminate, gradually tapering from an ovate base, spreading, recurved at the top, shorter than the stem, lepidote with minute scales, or greenish, "ezonate;" spike compound: branches long, distant; *bractlets* distichous, *erect, oblong, blunt,* shorter than or as long as the internodes, *half as long again as the calyx;* sepals 3, half as long as the corolla; *petals greenish-white,* spreading at the summit; anthers exserted; "stigmas convolute;" capsule twice as long as the calyx.—*Bot. Reg. t.* 749.—T. flexuosa, var. pallida, *Lindl.*—Nearly allied to the preceding, but stouter, more branched, pedicels and bractlets shorter; "bractlets and calyx green with a reddish margin," the former 6,‴ the latter 12,‴ capsule 2″ long, its valves broader than in the preceding.—HAB. Antigua!, *Wullschl.,* S. Vincent!, *Guild.;* [Cuba! to French islands!, Venezuela!].

Sect. 2. VRIESEA, *Lindl., Gaudich.*—*Spike distichous. Filaments not twisted.*—Stem

leaved below, or bracteate only; *leaves broad, abruptly pointed, green,* wholly or almost devoid of scaly down.

§ 1. *Petals naked within, erect, spreading at the summit; anthers introrse.*

* *Stem stout, leafy below.*

26. **T. excelsa,** *Gr.* (*n. sp.*). Stem leafy below; leaves oblong, shortly acuminate, lowest large, slightly dilated at the base, those of the stem decrescent, spreading; *spike compound: branches* spreading, distant, as long as or exceeding the supporting leaf, *most* or lower ones *compound again: bractlets* imbricate-distichous, oblong, pointed, *equalling the* 3-leaved *calyx* and the capsule, much longer than the internodes; petals shortly exserted, spreading at the summit, naked; anthers included, introrse.—Allied to *T. gigantea* (Vriesea, *Gaud.*), in the figure of which the leaves agree, but the bractlets are exceeded by the calyx, and the panicle is less compound. Leaves shining, dotted below, largest 1½′(–2′ and more) long, 2″(–3″) broad; primary branches 3″–6″, uppermost secondary ones 1½″–2″, reddish bractlets 10‴–18‴, petals 12‴–20‴ long.—Hab. Jamaica!, *Pd., Wullschl.*, on trees, Manchester, Westmoreland; [Cuba!, Venezuela!].

27. **T. foliosa,** *Gr.* (*n. sp.*). Stem leafy; leaves linear-oblong, shortly acuminate, lowest long, those of the stem suberect, of the panicle spreading, ovate at the base; *spike compound,* racemiform: *branches short,* simple, most approximate, *few-flowered, exceeded by the supporting leaf: bractlets* imbricate-distichous, approximate, oblong-lanceolate, *equalling the* 3-leaved *calyx;* petals a little shorter than the calyx, naked; anthers included, introrse.—Habit of the preceding, but panicle leafy, contracted. Lowest leaves 2½′ long, 1½″–1″ broad, floral 3″ long, 1½″ broad; bractlets 1½″–1″, calyx 1½″, corolla 15‴ long.—Hab. S. Vincent!, *Guild.*; [Guiana!].

28. **T. penduliflora,** *Gr.* (*n. sp.*). Leaves lanceolate-oblong, shortly acuminate; branches of the inflorescence long, compound, racemiform: *spiral spikes short, distant,* shorter than their internodes, *nodding,* exceeding the bract, 5–6-flowered: bractlets imbricate-distichous, approximate, ovate-oblong, or oblong-lanceolate, pointed, equalling the calyx.—Imperfectly known, probably allied to the preceding, but stem unknown. Leaves 3′ long, 2″ broad; branches naked, 1½′–2′, internodes 1½″–2″, spikelets 1½″–1″ long, the latter nodding from a short, recurved peduncle; bract and bractlets about 1″ long.—Hab. Dominica!, *Imr.*

** *Stem reduced to the rosulate leaves: peduncles scapiform, bracteate, axillary.*

29. **T. axillaris,** *Gr.* (*n. sp.*). *Leaves* oblong, pointleted, slightly dilated at the base, *longer than the axillary scapes; spike simple,* compressed, distichous: *bractlets approximate,* oblong, pointed, keeled-conduplicate, exceeding the calyx; *sepals* half as long as the corolla, 2 *united to* ¾; petals naked, "purple" (*Fendl.*): spathulate limb exserted from the bractlet, spreading; anthers introrse, contiguous.—Leaves 1′–1½′ long, 1½″–2″ broad; scapes several, incurved, 10″–12″, spike 2″, bractlets 10‴–8‴, capsule 1″ long.—Hab. Jamaica!, *Pd.*, on mountain-rocks, S. Andrews; [Venezuela!, *Fendl.*].

§ 2. *Petals 2-scaled at the base, spreading at the summit, usually at length ringent-deflexed* (Vriesea, *Lindl.*).

30. **T. glutinosa,** *Mart.* Stout; leaves oblong, acute, equal at the base, rosulate; *spike divided at the base:* branches long, ascending-erect: *bractlets* large, imbricate, distichous, *much longer than their internodes,* ovate-oblong, bluntish, *convex on the back, much exceeding the* 3-leaved *calyx; petals* spathulate-linear, spreading at the shortly exserted summit, greenish, more than twice as long as the calyx, *2-scaled at the base:* scales oblong-lanceolate; *anthers* incumbent, *introrse;* [capsule half as long as the bractlet, exceeding the calyx].—Vriesea, *Lindl.!*—V. conferta, *Gaudich.* (*Bonite, t.* 65): the figure only distinguished by mucronate leaves; and T. splendens, *Brongn.* (*Fl. des Serres,* ii. *May, f.* 4): distinguished by a simple spike.—Leaves 2′–2½′ long, 2½″ broad; spikes about 1′, bracts and bractlets 2″, calyx 1″, slender corolla about 27‴, its scales 3‴ long; ovary superior, but supported by a thickish pedicel with soft pith; the capsuliferous specimen (from Venezuela) is not quite certain: its bractlets more acuminate, about 3″, calyx 9‴, capsule 1½″ long.—Hab. Trinidad!, *Cr.*, Maraccas Waterfall; [Venezuela!, Brazil].

Sect. 3. Anoplophytum, *Beer.*—*Spike 3–5-stichous. Petals naked within, spreading*

above. Stamens included: anthers erect. Stigmas spreading.—Stem low, densely leafy below, bracteate above; leaves lepidote, linear-acuminate, channelled.

31. **T. pulchella,** *Hook.* Stem incurved at the base: naked summit as long as the leaves; *leaves imbricate, linear-acuminate* from the gradually dilated base, erect-spreading, channelled, lepidote, at length greenish; spike few–8-flowered: *bractlets* somewhat distant, oblong-lanceolate, *membranaceous,* usually with a foliaceous point, rosy; sepals two-thirds as long as the spathulate-linear, white petals: 2 united to $\frac{3}{4}$, keeled; filaments unequal, straightish; capsule equalling the calyx: seeds devoid of a pappus.—*Bot. Mag. t.* 5229.—T. pityphylla, *Mart.* (*ex. descr.*).—4″–8″ high, often branched below; leaves 4″–3″ long, 2‴ broad at the base, lowest disappearing before anthesis; bractlets (except the setaceous summit) 6‴–8‴, calyx 5‴–6‴ long.—Hab. Trinidad (*Sch.*); [Cuba!; Venezuela!, Guiana!, on tree-branches, Brazil].

Sect. 4. Diaphoranthema, *Beer.—Spike distichous: peduncles naked, few–1-flowered. Petals naked within, spreading above the calyx. Stamens included: filaments straight: anthers erect, introrse. Stigma obsoletely 3-lobed: style short.*—Stems low, leafy; leaves lepidote, distichous.

32. **T. recurvata,** *L.* Stems cæspitose; *leaves filiform, recurved: scaly down spreading;* peduncles axillary, or terminal, subsolitary, exserted, 2(–5)-flowered; spike included by a sheathing bract, each flower by a bractlet, superior somewhat distant; calyx 3-leaved, $\frac{3}{4}$ as long as the blue corolla; capsule more than twice as long as the calyx: endocarp brown, submembranaceous.—*Sl. t.* 121. *f.* 1.—About 6″ high; leaves 2″–3″, bract 5‴–6‴, capsule 1″ long.—Hab. Bahamas; Jamaica!, *Al.*, *Wils.*; Antigua!, *Wullschl.*; [Southern United States!, and Cuba! to Buenos Ayres!].

Sect. 5. Strepsis, *Nutt.—Peduncles naked, lateral, 1-flowered. Petals, stamens, and short style of* Diaphoranthema, *but stigmas* 3, *spreading, capitate at the summit, and ovary-cells few-ovulate.*—Stems filiform, hanging, flexuose, branched, leafy; leaves lepidote, alternate; peduncles solitary.

33. **T. usneoides,** *L.* Whitish-lepidote from spreading, scaly down; *branches long, interwoven; leaves filiform,* spreading-recurved; peduncles shorter than the leaves: branch and 2 branchlets at their summit filiform, the former as long as the calyx, the latter exceeded by it; petals "purple," spathulate, half as long again as the 3-leaved calyx; capsule about thrice as long as the calyx: endocarp purplish-brown, chartaceous.—*Sl. t.* 122. *f.* 2, 3.—1′–4′ long; leaves 1″–2″, capsule 8‴ long: seeds 9–18.—Hab. Jamaica!, *Al.*, *Wullschl.*; Antigua!, *Wullschl.*, hanging from trees; [United States! to Uruguay! and Chili!].

10. GUZMANIA, *R. P.*

Character of *Tillandsia,* but anthers cohering.—Habit of *Vriesea,* but spike pluriserial-imbricate.

34. **G. tricolor,** *R. P.* Leaves oblong, acute, slightly dilated at the base, devoid of scaly down, most rosulate, erect, about as long as the central, bracteate stem; bractlets ovate, pointed, including the flower, variegated, uppermost red; sepals 3, ventricose-ovate, blunt, convolute, two-thirds as long as the white corolla, half as long as the capsule; exserted part of the connivent petals ovate, blunt.—*R. P. Peruv. t.* 261; *Bot. Mag. t.* 5220.—T. comosa, *Bert.*—1′ high; leaves 1″ broad; bractlets 16‴–12‴, calyx 8‴ long.—Hab. Jamaica!, *Pd.*, *Al.*, *Wullschl.*, *March,* on rocks, S. Andrews; [Cuba! to Portorico; Venezuela! to Peru].

11. CARAGUATA, *Plum.*

Character of *Tillandsia,* but corolla sympetalous, and stamens inserted into the throat of its cylindrical tube.—Stem *simple, leafy below;* leaves *broad, pointed, devoid of scaly down;* bracts *pluriserial-imbricate.*

35. **C. lingulata,** *Lindl.* Leaves oblong, mucronate-pointleted, dilated at the base, as long as or longer than the stem; flowers in a terminal head, yellow, exceeded by ovate-oblong, somewhat rosulate, foliaceous, red bracts; sepals lanceolate-acuminate, half as long

as the tubular corolla.—*Sl. t.* 120; *Jacq. Amer. Pict. t.* 92.—Tillandsia, *L.*—Leaves 1′–1½′ long, 1″–1½″ broad, exterior bracts 3″–2″, flowers about 1½″ long.—HAB. Jamaica!, *Wullschl.*, on trees; [Cuba! to Guiana!].

C. serrata, Schult. (Tillandsia, *L.*), a doubtful Jamaica plant, is evidently no congener, but from *Plum. Ed. Burm. t.* 75. *f.* 1, may be one of our *Ananasseæ*.

12. CATOPSIS, *Gr.*

(Tussaria, *Kl., non Reichenb.*)

Character of *Tillandsia*, but stigmas subsessile, funiculi incurved, dissolved into flexuose hairs from the base upwards, pappus spreading from the hilum, and pendulous seeds terminated with a blunt coma.—Habit of *Tillandsia*: flowers *pluriserial, in lax spikes*; stamens *included*: anthers *oval*.

36. **C. nutans,** *Gr.* *Leaves* ovate-lanceolate, *narrowly acuminate*, ventricose at the base, *dotted*, most rosulate; spikes slender, distant in a loose, simply branched panicle: bractlets about as long as their internodes; sepals 3, spathulate, half as long again as the bractlet; petals spathulate, subincluded, "white;" capsule twice–thrice as long as the calyx; pappus rusty-whitish.—Tillandsia, *Sw.* T. Berteroana, *Schult.*—1′–2′ high, usually nodding; leaves 6″–10″ long, 1½″–1″ broad; sepals 2‴ long.—HAB. Jamaica!, *Pd.*, *Wullschl.*, on trees; Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Cuba!, Haiti].

37. **C. nitida,** *Gr.* *Leaves* oblong, *mucronate-rounded at the top*, slightly dilated at the base, devoid of scaly down, *shining-green*, all rosulate; spike simple, or simply branched, slender, nodding: bractlets ovate, bluntish, as long as their internodes; sepals 3, elliptical, a little longer than the bractlet; petals "whitish," subincluded; capsule twice as long as the calyx; pappus rusty-whitish.—Tillandsia, *Hook.!* Tussaria, *Beer.*—6″–18″ high; leaves 8″–4″ long, 12‴–8‴ broad; sepals 2‴–4‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, on trees, summit of Dolphin's peak: [Cuba!, Guadeloupe!; Guiana!].

CXLV. MUSACEÆ.

Perigone coloured, unequal, 2-seriate: each series of 3 divisions. *Stamens* 6, one (–several) sterile, or abortive. *Ovary* inferior, 3-celled. *Embryo* axile, in amylaceous perisperm. —Herbs, *often arborescent, simple*; leaf-blade *entire, costate.*

The Banana (*Musa sapientum*) and the Plantain (*M. paradisiaca*) are known as most valuable tropical plants, for the abundance of nutritive food afforded by this fruit. The large leaves of *Musa* are used for thatching, and all *Musaceæ* are fibre-plants.

1. MUSA, *L.*

Perigone 2-lipped: exterior and inferior lip 5(–3)-lobed at the summit, interior and superior (labellum) smaller, entire. *Superior stamen* abortive. *Ovary-cells* many-ovulate. *Pericarp* baccate.—Arborescent herbs; leaves *rosulate at the summit of the stem*; flowers *often unisexual, ebracteolate-glomerate in the axils of large bracts (the spathes), the glomerules spicate along a long axis (the spadix).*

1*. **M. paradisiaca,** *L.* *Stem green*; leaves oblong; spadix nodding: fruits ascending, long-subcylindrical, incurved.—*Tuss. Fl.* 1. *t.* 1. 2.—Fruit 1′ long.—HAB. Naturalized and cultivated, *e.g.* Jamaica!, *Wils.*; [all tropical countries].

2*. **M. sapientum,** *L.* *Stem "purple-spotted;"* leaves oblong; spadix nodding: fruits obliquely elliptical-oblong (5″–6″ long).—HAB. Naturalized and cultivated, *e.g.* Antigua!, *Wullschl.*; [all tropical countries].

2. HELICONIA, *L.*

Perigone 2-lipped: superior lip terminated with 2-seriate, 5–3 teeth or lobes, inferior and exterior as long, entire. *Inferior stamen* sterile. *Ovary-cells* 1-ovulate. *Capsule* drupaceous, 3-coccous.—Stem *sheathed by the base of the petioles*; flowers *bracteolate, glomerate or fascicled in the axils of distichous bracts.*

* *Bracts large, adnate at the base, spreading, subequal: flowers glomerate-spicate.*

3. **H. Bihai,** *L.*, *Sw.* (*non Jacq.*). Scape about as long as the petioles; *leaves* oblong, *pointleted*, subacute at the base; *bracts* large, 6–10, conduplicate-subulate, *adnate-clasping at the base*, spreading, much longer than the included, glomerate-spicate flowers; superior lip 5-dentate.—*Sw. Obs. t.* 5. *f.* 2.: *analyt.*, in *b.* and *c.* the cohering rows of the superior lip are separated.—H. luteofusca, *Jacq.* H. humilis, *Jacq.* (*Schœnbr*, i. *t.* 48, 49): apparently a low form with red bracts, agreeing at least in structure.—5′–12′ high; inferior bracts 8″ long, brown or purple with a yellow margin; flowers 2″ long.—Hab. Jamaica (*Sw.*), in moist mountain-woods; Trinidad!, *Pd.*; [Cuba! to Guiana!; Peru!].

[**H. caribæa,** *Lam.* "Scape about as long as the petioles; *leaves* oblong, *rounded at both ends;* bracts large, 6–10, conduplicate-subulate, *adnate-clasping at the base,* spreading, longer than the included, glomerate-spicate flowers; superior lip 3-dentate."—*Plum. Ed. Burm. t.* 59. *Desc. Fl.* 4. *t.* 260. *Rich. Musac. t.* 8. & 10. *super.* H. Bihai, *Jacq.*, *Rich.*—Hab. Martinique (*Jacq.*).]

** *Bracts sessile, inferior gradually larger: flowers fascicled.*

4. **H. pulverulenta,** *Lindl.* Stem leaved below; leaves ovate-oblong, pointleted, rounded or subcordate at the base, "powdery beneath" or glabrate: petiole sheathing below: *bracts* 3–5, oblong-lanceolate, *ascending-erect*, conduplicate-clasping at the base, *much longer than the fascicle of flowers*, lowest as long as the inflorescence.—*Bot. Mag. t.* 4685.—3′–6′ high; leaves 8″ long; bracts red, lowest 5″ long; flowers greenish.—Hab. Dominica (*Hook.*); Trinidad!, *Pd.*, in woods, Arima; [Brazil].

5. **H. psittacorum,** *L.* Stem leaved; leaves oblong, or oblong-lanceolate, shortly and narrowly acuminate, rounded or bluntish at the base: petiole sheathing from below the summit; *bracts* 3–6, lanceolate, *spreading-erect*, concave at the base, *not much longer than the fascicle of flowers*, lowest as long as the inflorescence: *pedicels glabrous;* superior lip 3-dentate.—*Bot. Mag. t.* 502. *Rich. Musac. t.* 9, 10 *inf.*—H. cannoides, *Rich.* H. Swartziana, *R. S.*—2′–4′ (–8′) high; leaves 6″–12″ long; bracts reddish, lowest 2½″–3″ long; flowers reddish-yellow, black at the point, 12‴–15‴ long.—Hab. Jamaica!, *Pd.*; S. Kitts!; Trinidad!, *Pd.*; [Venezuela to Brazil].

6. **H. hirsuta,** *L. fil.* Stem leaved; leaves oblong, or oblong-lanceolate, acuminate, blunt or bluntish at the base: petiole sheathing from near the summit; *bracts* 5–12, lanceolate-linear, *spreading*, concave at the base, *most about twice as long as the fascicle of flowers*, lowest as long as the inflexed-ascending inflorescence: *pedicels* and flowers *villous or pubescent;* superior lip 5–3-dentate.—H. dasyantha, *C. Kch.* (*ex descr.*). H. acuminata, *Kappl. Surin.* (*non Rich.*). H. psittacorum, *Seem. Panam.*—Habit of the preceding and of H. acuminata, *Rich.*: the latter has petioles sheathing only below, and a glabrous inflorescence; lowest bracts 3½″–5″ long.—Hab. S. Vincent!, *Guild.*; [Panama!, Venezuela!, Guiana!].

CXLVI. SCITAMINEÆ.

Perigone coloured, 2-seriate (calyx and corolla), each of 3 divisions. *Fertile stamen* 1, inserted with the staminodia into the corolla-throat. *Ovary* inferior, compound, usually 3-celled. *Embryo* included within amylaceous perisperm, free at the point of the radicle.—Perennial herbs; leaf-blade *entire*, 1-*costate*.

The *Zingiberaceæ* contain aromatic, pungent principles: ginger (*Zingiber*) is extensively cultivated; the aroma in the seeds of *Renealmia* has been compared with *Cardamom*. Starch, called Arrow-root, is obtained from *Maranta*.

Tribe I. *ZINGIBERACEÆ.—Calyx tubular. Anther of 2 distinct cells, embracing the style, superior: inferior staminodium (labellum) petaloid. Sac of the embryo persistent. Petiole ligulate, devoid of a terminal knob.*

1. RENEALMIA, *L. fil.*

Corolla clavate-infundibular: limb exserted. *Labellum* embracing at the base the stamen: lateral staminodia obsolete. *Anther* oblong, not exceeded by the connective: filament

very short. *Stigma* subemarginate. *Capsule* pulpy, many(-several)-seeded, irregularly loculicide.—Rhizoma *creeping;* flowers *in a terminal raceme, supported by a tubular, or sheathing bractlet.*

* *Scape lateral, at the base of the sterile stem.*

1. **R. sylvestris,** *Gr.* Scape radical, glabrous; leaves lanceolate-oblong, pointed: petiole produced beyond the ligule; raceme dense, spiciform: *bracts* 1-flowered, oblong, blunt, or bluntish, *about as long as the shortly pedicellate, yellow flower: tubular bractlet obliquely truncate,* half as long as the 3-dentate calyx; corolla-lobes obovate, shorter than the tube: labellum shortly exserted, broadly obovate, entire, ciliate; *filament as broad as the anther;* capsule ovoid.—*Sl. t.* 105. *f.* 2.—Amomum, *Sw.!*—Scape 1′–1½′, sterile stem 4′–8′ high; leaves 2½′–1′, coloured bracts about 1½″, pedicels 1‴–2‴, calyx 1″ long.—Hab. Jamaica!, *Sw., Pd., Al., Wullschl.*, in moist woods, S. Georges, Manchester.

2. **R. bracteosa,** *Gr.* (*n. sp.*). Scape radical, pubescent; leaves large, oblong, mucronate, tapering toward the ligule; raceme lax: *bracts* 1-flowered, lanceolate-linear, *twice as long as the flower,* superior decrescent: *tubular bractlet ventricose, broadly and shortly 2-fid,* much longer than the pedicel, about as long as the broadly 3-dentate calyx, pubescent; corolla-lobes oblong-oval, shorter than the tube: labellum subincluded, entire; *filament narrower than the anther;* capsule ovoid.—R. spec., *Rosc.:* his characters given at the end of the description of *R. exaltata,* L., agree perfectly.—Scape 1½′–2′ high; leaves 3′–4′ long, 6″ broad; inferior bracts 3½″–2½″, pedicels 3‴, calyx 10‴–12‴ long.—Hab. Dominica!, *Imr.;* [Guadeloupe!].

3. **R. occidentalis,** *Gr.* Scape radical, hispidulous-pubescent chiefly at the rhachis and at the pedicels; leaves lanceolate-oblong, mucronate-acuminate, narrowly tapering toward the ligule; *raceme* long, *usually compound* with short branches: *bracts* lanceolate, deciduous, inferior, *many–2-flowered,* longer than the flowers, superior decrescent: tubular bractlet obliquely truncate, blunt, little exceeded by the calyx, about twice as long as the pedicels; *calyx ventricose,* 3-*fid: lobes oval, blunt;* corolla-lobes obovate, as long as their slender tube; "labellum exserted, emarginate;" capsule ovoid.—Alpinia, *Sw.* A. jamaicensis, *Gärtn. t.* 12. *sec. Sw.*—Scape 1½′–3′ high, sterile stems much higher; leaves 2′–1′ long, 4½″–2″ broad; lowest bracts 1½″, pedicels 2‴, calyx 4‴–5‴ long, "the latter purpurascent; corolla yellow."

α. Raceme compound: most branches many-flowered; pedicels upward one-sided.—Habit of *R. aromatica* (Alpinia, *Jacq. Fragm. t.* 74, 75) of Haiti, said to have globose capsules: both are confounded by Roscoe.

β. Paro secora (Alpinia, *Jacq. Fragm. t.* 76). Raceme simple: most bracts 1-flowered, lowest 2-flowered.—Perhaps a distinct species.

Hab. Jamaica!, *Wils., March* (*β*); S. Vincent!, *Guild.* (*α, β, Jacq.*); [Cuba! (*α*), Guadeloupe! (*α*); Panama!, New Granada!].

** *Raceme terminal; labellum 3-lobed.*

4. **R. racemosa,** *Rosc.* Leaves lanceolate-oblong, shortly acuminate: *petiole* shortly *produced beyond the ligule;* raceme terminal, lax, exceeded by the uppermost leaves: *rhachis* and pedicels *glabrous;* bracts 3–1-flowered, most (except the lowest) exceeded by the flowers, lanceolate-linear, bluntish; *calyx* shortly 3-dentate, *twice as long as the* obliquely truncate, tubular *bractlet;* corolla-lobes spathulate, as long as the tube: labellum obovate–3-lobed; filament shortly filiform; capsule ovoid-globose.—*Sl. t.* 105. *f.* 1.—Alpinia, *Sw., L.* (*ex parte*). A. antillana, *R. S.*—Stem 2′–3′ high; leaves 8″–10″ long, 2″ broad; bracts "red," lowest 1″, pedicels 2‴, calyx 5‴ long; corolla white.—Hab. Jamaica!, all coll., in moist woods; [Cuba! and Mexico! to Peru!]

5. **R. caribæa,** *Gr. Leaves* broadly lanceolate-oblong, pointed, *tapering as far as to the ligule;* raceme terminal, lax, exceeded by the uppermost leaves: *rhachis* and pedicels *pubescent;* bracts 3–1-flowered, oblong-linear, bluntish; *calyx* clavate, bluntly 3-dentate, *about as long as the* common, distant, sheathing *bractlet;* corolla-lobes spathulate: labellum obovate–3-lobed; filament shortly filiform; capsule ovoid.—*Plum. Ed. Burm. t.* 20. *Gärtn. Fruct. t.* 12: the capsule.—Alpinia, *Gärtn.* A. racemosa, *R. S.* (*ex parte*).—Leaves 1½′–1′ long, 4″–3″ broad; inferior bracts 2″–1½″, calyx 8‴, capsule 6‴ long.—Hab. Dominica!, *Imr.*

2*. ZINGIBER, *G.*

Character of *Renealmia*, but filament long, and connective produced beyond the anther-cells into a linear, grooved, terminal appendage.—Root *tuberous;* flowers *in dense, short spikes:* bracts 1-*flowered.*

6*. **Z. officinale,** *Rosc.* Scape radical, half or one-third as long as the sterile stem; leaves linear-lanceolate, acuminate, tapering towards the 2-lobed ligule: bracts imbricate, ovate-roundish, blunt, membranaceous; "corolla-lobes pale-yellow, lanceolate: labellum dark-blue and variegated, 3-lobed: middle lobe broad, emarginate, lateral short, narrow."—*Rosc. Monandr. t.* 83.—Scape 1′–1½′ high; leaves 8″–12″ long, 8‴–12‴ broad; spike ovoid, 1½″–2″, bracts 10‴–12‴ long.—Hab. Naturalized and cultivated in Jamaica [and Cuba!, introduced from East Indies].

3. COSTUS, *L.*

Corolla and *labellum* of *Renealmia. Stamen* petaloid, spathulate: anther-cells adnate to its inner side. *Stigma* dorsally 2-corniculate. *Capsule* "pulpy, loculicide, many-seeded."—Stem *leafy, thickish, trailing;* leaves *supported by a tubular ochrea;* spike *dense, mostly terminal, usually supported by the uppermost leaves;* bracts *broad,* 1-*flowered.*

7. **C. spicatus,** *Sw.* Leaves elliptical, or elliptical-oblong, pointed; spike ovate: *bracts* imbricate, broadly ovate, *pointed,* striate, keeled above, red-coloured (except at the margin); *corolla yellow; labellum exserted, shortly 3-lobed,* recurved.—*Jacq. Amer. Pict. t.* 1. *Rosc. Monandr. t.* 77.—Alpinia, *Jacq.*—1′–6′ high; bracts 1″, flowers about 2½″ long.

α. Wholly glabrous.

β. pubescens. Leaves pubescent, chiefly beneath: ochrea ciliate.—C. villosissimus, *Jacq.* (*Fragm. t.* 80): a still more pubescent form.

Hab. Jamaica (*Sw.*); S. Kitts, Grenada, S. Vincent, *Guild.* (*β*); Trinidad (*Crueg.*); [French islands (*Jacq.*) to Brazil].

8. **C. glabratus,** *Sw.* Leaves elliptical-oblong, or lanceolate-oblong, pointed, glabrous; spike ovate-oblong: *bracts* imbricate, ovate-roundish, *with a bluntish point,* striate, green, *inferior terminated by a foliaceous appendage; corolla white, with a yellow blotch; labellum* exserted, "*undulate, narrow.*"—C. arabicus, *Ait.* C. niveopurpureus, *Jacq.* (*Fragm.* t. 79) is probably a form of our species ("corolla white, with a violet tinge, labellum lacerate at the summit").—1½′–5′ high; bracts 1″ diam., flowers 2″–3″ long.—Hab. S. Lucia (*Sw.*), in moist woods; [Haiti!, French islands!; Guiana].

9. **C. spiralis,** *Rosc.* "Leaves oblong-obovate, or lanceolate-oblong, pointed; spike ovoid: *bracts* imbricate, ovate-roundish, *obtusate,* red; *corolla red; labellum about as long as the superior petal, exceeding the stamen, entire, straight.*"—*Jacq. H. Schœnbr.* 1. *t.* 1.—Alpinia, *Jacq.*

α. Jacquini. "Leaves oblong-obovate, pointleted: ochrea often ciliate; bracts ciliate; corolla red with a yellow tinge."—"3′–4′ high; spike 2″ long."

[*β. Pisonis,* Lindl. "Leaves elliptical, cuspidate, glabrous; bracts glabrous; corolla red."—*Bot. Mag. t.* 899.]

γ. Roscoei. "Leaves lanceolate-oblong, pointed, glabrous; bracts glabrous; corolla red."—*Rosc. Monandr. t.* 79.

Hab. S. Vincent (*Jacq. α*); Trinidad (*Rosc. γ*); [Brazil].

10. **C. cylindricus,** *Jacq.* Leaves lanceolate- or obovate-oblong, pointed; *spike cylindrical: bracts* densely imbricate, *broader than long, broadly rounded,* striate, red; corolla "yellow or red;" *labellum* about as long as the stamen, *entire, straight.*—*Jacq. Fragm. t.* 77. *Rosc. Monandr. t.* 78.—C. Anachiri, *Jacq.* (*Fragm. t.* 78): probably a stout form of the same, with variegated, red and yellow flowers. C. ciliatus, *Miq.!:* a form with pubescent ochreæ, corresponding with Roscoe's figure.—6′ high and more; spike 4″–6″ long, blunt; corolla 1½″ long, "yellow (*Rosc.*), variegated (*Jacq.*), or red" (*Kegel*): Plumier stated the flowers of his Martinique plant to be blue, but he saw them only in a withered state.—Hab. S. Vincent (*C. Anachiri,* Jacq.); Trinidad (*C. cylindricus,* Rosc.); [Martinique (*C. cylindricus,* Jacq.); Guiana!].

TRIBE II. *CANNACEÆ.—Calyx-tube not produced beyond the ovary. Anther* 1-*celled, marginal on a lateral, petaloid filament: staminodia several. Sac of the embryo disappearing.*—No ligule.

4. CANNA, *L.*

Corolla infundibular. *Petaloid staminodia:* one exterior, alternate to the corolla, (rarely 2-partite, or replaced by 2, or wanting: the upper lip, comprising one of the interior staminodia), two interior, one of the latter 2-partite (or replaced by 2), or undivided, inserted into the corolla-throat, the other (the labellum, or lower lip) recurved. *Stamen* recurved: anther half-adnate. *Style* spathulate-linear, flattish: stigma truncate. *Capsule* warty, loculicide, many-seeded: seeds subglobose: embryo straight.—Leaves *devoid of a petiolar knob;* flowers *usually geminate, in a terminal raceme or corymb.*

* *Flowers red or variegated with yellow.*

11. **C. indica,** *L., Ait.* Leaves ovate, or ovate-oblong, pointed; *segments of the upper lip entire at the top,* subequal, *lanceolate,* erect: one of the 2 leaflets 2-partite: *lower lip entire.—Rosc. Monandr. t.* 1.—3′–4′ high; flowers red, variegated with yellow, about 2″ long.—HAB. Jamaica!, *March;* [Cuba! to Venezuela!].

12. **C. Lamberti,** *Lindl.* Leaves elliptical, or elliptical-oblong, pointleted, tapering into the sheath; *segments of the upper lip entire at the top,* erect: one of the 2 leaflets 2-partite: *lateral divisions obovate-spathulate, the middle segment* ("sometimes wanting") *and lower lip lanceolate,* the latter revolute, entire.—*Rosc. Monandr. t.* 2.—12′–14′ high; flowers crimson, not variegated, about 3″ long.—HAB. Dominica!, *Imr.;* Trinidad (*Rosc.*); [Guiana].

13. **C. coccinea,** *Ait.* Leaves ovate, or ovate-oblong, mucronate; *larger segments of the upper lip emarginate, lanceolate, unequal,* erect: the middle segment smaller, linear, (or wanting): *lower lip* linear, *emarginate.—Rosc. Monandr. t.* 11.—C. occidentalis, *Rosc.:* a broad-leaved form. C. surinamensis, *Miq.!*—4′–6′ high; flowers about 2½″ long, red, lower lip variegated with yellow.—HAB. Jamaica!, *March;* S. Kitts!, Antigua!, *Wullschl.,* S. Vincent!, *Guild.;* [Guiana!].

14. **C. edulis,** *Ker.* "Leaves ovate, or ovate-oblong, mucronate, contracted into the sheath; *segments of the upper lip subequal, lanceolate, entire at the top,* erect: *lower lip* linear, *emarginate.*"—*Rosc. Monandr. t.* 5.—C. discolor, *Lindl.* (*Bot. Reg. t.* 1231): a form with purple-stained leaves.—" 8′–12′ high, tuberous; longer pedicels 2-bracteolate below the ovary; corolla red, 3″ long."—HAB. Trinidad (*Lindl.*); [Brazil, Peru].

** *Flowers yellow.*

15. **C. pallida,** *Rosc.* Leaves ovate-oblong, or oblong, bluntish, or mucronate: sheath puberulous or glabrescent; *staminodia lanceolate, emarginate:* upper lip erect, its 2 *leaflets* equal, mostly *undivided.—Rosc. Monandr. t.* 19, 20.—C. maculata, *Lk.:* a broad-leaved form. C. Buckei, *Weinm.?*—2½′–4′ high; flowers 2″ long, yellow, lower lip with orange spots.—HAB. Jamaica!, *March;* S. Kitts, *Els.,* Barbadoes (*Rosc.*).

16. **C. glauca,** *L.* Leaves large, elliptical-lanceolate, acuminate, long-tapering into the sheath, glaucous; *segments of the upper lip obovate-spathulate, equal, entire,* ascending: one of the 2 leaflets 2-partite: *lower lip* oblong-linear, *emarginate.—Rosc. Monandr. t.* 7.—6′ high; flowers yellow, not variegated, 3″ long.—HAB. Jamaica!, *March;* Trinidad!, *Cr.;* [Guiana!].

5. CALATHEA, *Mey.*

(Phrynium, *Pœpp., Endl., non Körnick.*)

Corolla-tube filiform: limb spreading. *Petaloid staminodia:* one exterior, alternate to the corolla (lower lip, or labellum, rarely wanting); two interior, opposite it, irregular (upper lip): one of them adhering to the stamen by a callous appendage, the other cucullate, including the style. *Stamen petaloid:* "anther half-adnate." *Style* incurved: stigma round, shortly appendiculate. *Capsule* 3-seeded: seeds cylindrical: embryo curved.—Leaves *with a cylindrical knob at the top of the petiole;* flowers *in spikes or heads.*

C. strobilifera, Miq., having a ligule and no petiolar knob, is a *Zingiberacea*, probably a *Renealmia* (Alpinia strobilifera, *Pœpp.*, *Endl.*).

§ 1. *Spike compressed-cylindrical: bracts distichous-imbricate, complicate, convex on the back, rigidly chartaceous.*—Spikes bursting from the leaf-sheaths at the summit of a naked stem. (*Eucalathea*, Körnick.)

17. **C. discolor,** *Mey.!* Glabrous, stout; stem 1–few-leaved at the inflorescence, naked below it; *leaves* large, oblong, or oval, blunt, *powdery beneath; spikes* axillary, single or geminate *at the top of several, fascicled peduncles; bracts large, roundish-subtruncate*, half as long as the yellow flower; lower lip obcordate.—*Rosc. Monandr. t.* 43. *Jacq. Fragm. t.* 69, 70 (*inclus. t.* 63, *f.* 4, 64. *f.* 3).—Maranta Cachibou, *Jacq.* (*Calathea*, Lindl.): identical with Meyer's specimen and Roscoe's figure. M. Casupo, *Jacq.* (*Phrynium*, Rosc.). M. Casupito, *Jacq.* (*Calathea*, Mey.). M. lutea, *Lam.* (*non Jacq.*). C. lutea, *Mey.*—12′–14′ high; leaves 2′–5′ (–1′), spikes 4″–6″ long, the latter 1½″–2″ broad; bracts about 1½″ diam.; corolla-tube 1½″, limb 1″ long.—Hab. Dominica!, *Imr.*, uncommon in woods; Trinidad (*Rosc.*); [Guiana!, Venezuela, New Granada].

§ 2. *Heads peduncled, bursting from a leaf-sheath: bracts herbaceous, or membranaceous, imbricated all round.* (Myrosma, *L.*, Pseudophrynium, *Körnick.*, Thalianthus, *Kl.*)

18. **C. myrosma,** *Lindl.* Stem puberulous above or glabrescent; *leaves alternate*, elliptical-oblong or oblong-lanceolate, pointed: knob short, villous-pubescent; *peduncles nodding* from the uppermost leaf-sheath, single or geminate, as long as the ovoid-oblong head; *bracts trapezoid*, half as long as the white flower; lower lip "obovate."—*Rosc. Monandr. t.* 39.—Phrynium, *Rosc.* Myrosma cannæfolium, *L.*—1′–2′ high; leaves 8″–5″, heads 1″, inferior bracts 6‴ long.—Hab. S. Vincent!, *Guild.*; [Guiana!, Brazil!].

19. **C. Allouya,** *Lindl.* Stem puberulous above or glabrescent, naked, except at the base and summit; *leaves* several, *fascicled* at the origin of the peduncle, obliquely elliptical, pointed: knob pubescent; *peduncle suberect*, single from one of the uppermost leaf-sheaths, longer than the ovoid head; *bracts elliptical*, bluntish, more than half as long as the white flower, lowest larger, elliptical-roundish; lower lip "deeply 2-fid."—*Jacq. Fragm. t.* 71. *Rosc. Monandr. t.* 38. *Desc. Fl. t.* 26.—Maranta, *Jacq.* Phrynium, *Rosc.*—Tubers "globose, stipitate;" stem 2′–3′, leaves 2′–6″ long: petioles as long as the blade; peduncles 3″, heads 1½″–2″, inferior bracts 1″, flowers about 1½″ long.—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Haiti to Guiana].

§ 3. *Scape terminated by a dense head: bracts herbaceous, imbricated all round.*

20. **C. comosa,** *Lindl.* "Glabrous; *scape terminated by a subglobose head;* leaves large, elliptical, long-petioled; *bracts oblong-lanceolate, acuminate, inferior recurved*, equalling the corolla-tube; flowers yellow; lower lip 2-lobed."—*Rosc. Monandr. t.* 35.—Maranta, *L.* Phrynium, *Rosc.*—"3′ high; leaves 2′ long; head 4″ diam.; bracts 1½″ long; corolla-limb half as long as the tube."—Hab. Trinidad (*Rosc.*); [Guiana].

6. ISCHNOSIPHON, *Körnick.*

(Calathea, *Pœpp.*, *Endl.*, *non Miq.*)

Character of *Calathea*, but anther nearly free (except at the oblique base), 2 ovary-cells sterile, the third 1-ovulate, and capsule "dehiscent at the summit."—Leaves of the West Indian species *with a curved midrib at the oblique apex:* petiolar knob *cylindrical; spikes slender:* flowers *involute by rigid chartaceous bracts and several bractlets.*

21. **I. Parkeri,** *Körn. Scape* pubescent, *terminated by a compound, dense spike;* leaves oblong, obliquely pointed, glabrous: midrib curved at the apex: petiolar knob villous at the annulate base; *spike oblong-lanceolate:* lower branches often distant, erect: *bracts* oblong-lanceolate, imbricate, *the common ones sub-3-stichous, special distichous, much longer than their internodes*, innermost bractlet membranaceous; corolla yellow: tube thrice as long as the limb: lower lip obovate.—*Rosc. Monandr. t.* 42.—Phrynium, *Rosc.* Maranta lachnocaula, *Miq.!*—Scape several feet high; leaves 15″–12″ long, 6″–5″ broad, long-petioled; racemose spike 3″–8″, bracts about 1″ long.—Hab. Trinidad!, *Cr.*; [Guiana!, equat. Brazil].

22. **I. Arouma,** *Körn.* *Stem* arundinaceous, *terminated by several rosulate leaves;* leaves ovate-oblong, obliquely pointed, glabrous: midrib curved at the apex: petiole about as long as the sheath, pubescent at the thickish base of the knob; *spikes* long, slender, *cylindrical,* fascicled, unequal, *bursting from a leaf-sheath: bracts* elliptical-lanceolate, or oblong-linear, bluntish, little longer than their internodes, *forming a distichous cylinder around the flowers;* corolla reddish: tube thrice as long as the limb: lower lip spathulate. —*Jacq. Fragm. t.* 73. *Rudg. Guian. t.* 37.—Maranta, *Jacq.* M. juncea, *Lam.* M. petiolata, *Rudg.*—6′–10′ high; leaves 1′ long, 8″–6″ broad, as long as the petiole; spikes 6″–12″, bracts about 1″ long, lowest longer.—HAB. Trinidad!, *Cr.*, in the northern hills; [French islands!; Guiana!, Brazil!].

7. MARANTA, *L.*

Corolla-tube obliquely tubular: limb spreading. *Petaloid staminodia:* two exterior (upper lip), two interior (lower lip), as in *Calathea.* *Anther* free from the petaloid filament. *Ovary* 1-ovulate by abortion: style incurved: stigma "3-angular." *Capsule* membranaceous: seed ovoid-oblong, tubercled: embryo curved.—Leaves *with a cylindrical knob between the blade and the sheath, alternate;* inflorescence *terminal.*

23. **M. arundinacea,** *L.* Tuberous, herbaceous, branched; *leaves* ovate-oblong, *pointed, puberulous;* inflorescence loose, spreading: bracts distantly distichous, deciduous; *corolla white: tube equalling the calyx,* clavate, about twice as long as the lobes; leaflets of the upper lip exserted, exceeding the lateral staminodia, obovate-roundish.—*Sl. t.* 149. 2: a leaf. *Rosc. Monandr. t.* 25.—4′–5′ high; corolla-tube 6‴ long.—HAB. Jamaica!; [Haiti! and Mexico! to Brazil!].

24. **M. indica,** *Tuss.* Tuberous, herbaceous, branched; *leaves* oblong, *sharply acuminate, glabrous* (except "along the midrib" and at the petiolar knob): sheath glabrous; inflorescence few-flowered: bracts distantly distichous, deciduous; *corolla white: tube equalling the calyx,* clavate, about twice as long as the lobes; "leaflets of the upper lip exserted, about as long as one of the inner staminodia."—*Tuss. Fl.* 1. *t.* 26. *Desc. Fl.* 8. *t.* 549. *Rosc. Monandr. t.* 26.—6′ high; corolla-tube 6‴ long, staminodia as long.—HAB. S. Vincent!, *Guild.*, Barbadoes (*Rosc.*); Trinidad (*Rosc.*); [Mexico to Venezuela!].

25. **M. gibba,** *Sm.* Devoid of tubers, shrubby, dichotomous; *leaves* ovate-oblong, *pointed, glabrous:* sheath glabrous; inflorescence few-flowered: bracts distantly distichous; *corolla white; tube twice as long as the calyx and the lobes, incurved-clavate;* "leaflets of the upper lip exserted, unequal, about as long as one of the inner staminodia."—*Rosc. Monandr. t.* 29.—Corolla-tube 1″ long, staminodia half as long.—HAB. Antigua!, *Wullschl.*, Barbadoes (*Rosc.*); [Mexico to Brazil].

26. **M. Tonchat,** *Aubl.* Shrubby, 3–2-chotomous, jointed at the nodes: *branches* subcompressed, *pubescent;* leaves ovate-oblong, pointed, oblique at the base, glabrous: sheath pubescent; inflorescence loose: bracts distantly distichous; *corolla pale-blue: tube* as long as the calyx and the limb, *campanulate-tubular.*—*Rosc. Monandr. t.* 30. *Bot. Mag. t.* 2398.—M. angustifolia, *Sims.*—Bracts shorter than in the 3 preceding species, most 6‴ long, corolla-tube as long.—HAB. Trinidad, *Cr.;* [Venezuela, Guiana, Brazil, Peru].

8. THALIA, *L.*

Corolla rotate. *Petaloid staminodia:* one exterior, large, two interior, as in *Calathea.* *Anther* free from the petaloid filament. *Ovary* 1-ovulate by abortion: style incurved: stigma long-appendiculate. *Achenium* utricular: seed ovoid, smooth: embryo curved.—Leaves *with a cylindrical knob at the top of the petiole;* inflorescence *terminal, branched.*

27. **T. geniculata,** *L.* Shrubby, jointed; leaves large, gradually tapering from the ovate base into the bluntish point, long-petioled; *panicle* loose, *composed of flexuose, jointed spikes;* bracts ovate-lanceolate, distichous, longer than the internodes, 2-flowered; corolla blue; exterior staminodium roundish, exserted.—*Rosc. Monandr. t.* 45.—4′–6′ high; leaves 1′–1½′, bracts 6‴–8‴ long; exterior staminodium 4‴ diam., exserted.—HAB. Trinidad!, *Cr.;* [Cuba! to Guiana! and Brazil].

CXLVII. BURMANNIACEÆ.

Perigone coloured, of 3 exterior and 3(–0) interior divisions. *Stamens* 3(–6), inserted into the perigonial tube. *Ovary* inferior, syncarpous or paracarpous, many-ovulate. *Embryo* undivided: no albumen.—Small herbs; leaves *minute or narrow.*

1. BURMANNIA, *L.*

Perigone infundibular: interior lobes minute. *Ovary* 3-celled. *Capsule* usually 3-winged, irregularly dehiscent by transverse slits between the angles.

1. **B. capitata,** *Mart.* Annual; stem filiform, simple, subaphyllous: scales distant, lanceolate-acuminate; *flowers in a small terminal head; perigonial tube* 3-*costate.—Mich. Fl. t.* 3.—Tripterella, *Mich.*—2″–8″ high; scales 1‴–2‴, flowers 2‴–3‴ long, the latter "whitish."—Hab. Jamaica!, *Wullschl.;* Trinidad!, *Pd.*, *Cr.*, in savannahs; [Carolina! to Brazil!].

2. APTERIA, *Nutt.*

Perigone infundibular: lobes of unequal breadth. *Stamens* with a broad, obcordate, dorsal appendage. *Ovary* 1-celled. *Capsule* medianicide at the summit.—A filiform, simple, or few-branched annual; leaves *scale-like, distant, ovate-lanceolate, sheathing;* cyme *raceme-miform, one-sided or few*–1-*flowered:* flowers *blue.*

2. **A. setacea,** *Nutt.—Hook. Ic. t.* 660.—A. lilacina, *Mrs.:* a large-flowered form. A. hymenanthera, *Miq.*—2″–4″ high; perigone 4‴(–8‴) long: lobes subuniseriate, bluntish, 3 linear, 3 deltoid.—Hab. Jamaica!, *Pd.*, *Wils.*, in high savannahs, Manchester; Trinidad!, *Cr.*, among mosses, Tocuche, heights of Las Cuevas; [Alabama! to equatorial Brazil!].

3. DICTYOSTEGA, *Mrs.*

Perigone urceolate: interior lobes smaller. *Stamens* devoid of dorsal appendages. *Ovary* 1-celled. *Capsule* medianicide.—Root-fibres with ciliate scales; stem filiform; leaves *scale-like;* flowers *in a terminal cyme.*

3. **D. orobanchoides,** *Mrs.* Stem erect, simple; cyme 2-fid: branches racemiform: pedicels nodding, alternating with the bracts; ovary turbinate, ecostate; capsule 3-valved. —*Hook. Ic. t.* 254.—Apteria, *Hook.*—8″–12″ high; scales appressed-sheathing, ovate-oblong, superior distant; perigone 1‴ long, white, deciduous: capsule as long.—Hab. Trinidad!, *Cr.*, at Aripo; [Brazil].

CXLVIII. ORCHIDEÆ.

Perigone coloured, of 3 exterior and 3 interior divisions: the third, interior (the lip or labellum) difform. *Stamens* 1(–2), gynandrous (the combined sexual organs forming the column): anther with definite pollinaria. *Ovary* inferior, mostly paracarpous: placentas 3, many-ovulate. *Pericarp* capsular. *Embryo* undivided: no albumen.—Perennial herbs, often with tubers, the latter either above ground (aerial) or terrestrial; leaves *entire;* inflorescence *centripetal.*

Vanilla is the aromatic fruit of the genus *Vanilla.*

Not having devoted a particular study to the tropical Orchids, I am glad to acknowledge that the determination of the West Indian species, in most cases, is due to Dr. Lindley (in *Pl. Wright.* and *Herb. Hook.*), Dr. G. Reichenbach (in my own collection), and Dr. Bradford, who gave descriptions and sketches, drawn from the living plants in the island of Trinidad, and communicated by Mr. Hance. The letters *L.* and *R.*, added in parenthesis to the names of species, refer to Dr. Lindley and Dr. Reichenbach, having confirmed the determination of the specimens.

Tribe I. *MALAXIDEÆ.—Pollinaria waxy, devoid of stalks (caudiculæ). Anthers in a special terminal cavity of the column (anther-bed or clinandrium), jointed at the base,*

deciduous.—The West Indian genera are mostly aerial, *i.e.* either epiphytes or developing their roots above the ground, except the species of *Liparis* and *Microstylis.*

1. PLEUROTHALLIS, *R. Br.*

Lip jointed with the column: perigonial divisions exterior lateral mostly cohering, at least at the base. *Column* devoid of lateral appendages at the summit: pollinaria 2, obovate-globose.—Stem *usually* 1-*leaved, not produced beyond the leaf, except by peduncles or scapes: no tubers;* flowers *small, racemose or single.*

§ 1. *Stem with appressed, flaccid sheaths at its nodes: leaf distant from its base.*

* *Racemes many-flowered.*

1. **P. univaginata,** *Lindl.!* Stem angular, longer than or as long as the leaf; *leaf oblong* or elliptical-oblong, tapering into the petiole, *about as long as the elongated, 2–3-nate racemes; perigonial divisions exterior lateral cohering at the base,* oblong, twice as long as the obovate-oblong, naked lip.—Stem 8″–12″, leaf 6″–10″, flowers 4‴ long.—Hab. Jamaica!, *Lindl.*, Manchester; [Cuba!].

2. **P. gelida,** *Lindl.* "Stem angular; *leaf oblong,* petioled, *about as long as the geminate racemes; perigonial divisions exterior lateral cohering to the middle;* lip cuneate-oblong, 2-keeled at the middle."—"Very like the last; 1′ high."—Hab. Jamaica! (*Lindl.*).

3. **P. Imrayi,** *Lindl.!* Stem angular-striate, longer than the leaf; *leaf broadly ovate* or roundish ovate, *twice as long as the fascicled racemes; perigonial divisions exterior lateral little cohering,* oblong, interior half as long, obovate; "lip much smaller, longitudinally 2-crested."—About 1′ high; leaf 5″–4″ long, 2½″–3½″ broad; flowers 3‴ long, gibbous at the base.—Hab. Dominica!, *Imr.*

4. **P. floribunda,** *Lindl.! Stem upwards 2-edged,* twice–thrice as long as the leaf *leaf lanceolate, sessile, about as long as the flexuose, fascicled racemes:* bracts spreading tubular; perigonial divisions nearly distinct, exterior oblong-lanceolate, half as long again as the interior, the latter obovate, pointed, as long as the lip; lip ovate, shortly 3-fid, 2-crested: middle lobe longer, oblong, pointed.—Specklinia, *Lindl.* Dendrobium ophioglossoides, *Sieb. Mart.* 206.—4″–6″ high; leaf 2″ long, 4‴ broad; flowers 2‴ long, "yellow."—Hab. Dominica!, *Imr.;* [Martinique!].

5. **P. alpestris,** *Lindl.* "*Stem cylindrical,* as long as or shorter than the leaf; *leaf ovate-lanceolate, shorter than the filiform, fascicled racemes;* perigonial divisions exterior lanceolate, lateral cohering to the middle, interior much smaller, ovate, pointed; lip minute, ovate, blunt, concave."—*Sw. Adnot. t.* 1. *f.* 5.—Dendrobium, *Sw.*—"Stem 2″, leaf 2″–3″ long; flowers small, greenish-yellow, with a deep-purple lip."—Hab. Jamaica!, (*Sw.*), on trees, in the highest mountains.

6. **P. laxa,** *Lindl.* "*Stem cylindrical; leaf oblong, about as long as the filiform,* solitary or fascicled *racemes;* perigonial divisions exterior ovate-lanceolate, lateral cohering to the middle, interior one-third as long, linear, pointed; lip ovate, recurved, channelled."—Dendrobium, *Sw.*—"Stem 2″–4″ high; flowers deep-purple."—Hab. Jamaica (*Sw.*), on rtees, in the highest mountains.

7. **P. longissima,** *Lindl.* Stem angular, as long as or twice as long as the leaf; *leaf* leathery, *spathulate-oblong, sessile, much shorter than the elongated, single raceme: flowers* one-sided, *greenish;* perigonial divisions oblong-lanceolate, exterior lateral cohering to or to near the summit, interior little shorter (rarely half as long); lip half as long as the perigone, oblong, blunt, recurved-ascending above the cucullate base.—P. racemiflora, *Lindl. Orch.!* (exclus. synonym.).—1½′–2′ high; leaf 4″–6″ long, 1″–1¼″ broad; raceme peduncled, 1′–1½′ long, supported by an oblong sheath; flowers 4‴ long.—Hab. Jamaica!, *Wils.*, on trees, S. Mary's.

8. **P. racemiflora,** *Lindl.* (*Fol. Orch.*). Stem angular, longer than the leaf; *leaf* rigid, *oblong, tapering into a petiole, half or one-third as long as the single* (-geminate) *racemes: flowers* one-sided, *purple;* perigonial divisons exterior oblong, pointed, lateral cohering to about the middle, interior half as long, blunt; "lip ovate-oblong, blunt."—Dendro-

bium, *Sw.* P. oblongifolia, *Lindl.!*—1′ high or lower; leaf 3″–5″ long, 1″ broad; flowers about 2‴ long.—HAB. Jamaica!, *March*, on trees, in the mountains; [Cuba!; Venezuela!].

9. **P. plumosa,** *Lindl.!* Stem angular, shorter than the leaf; *leaf* leathery, *oblong, sessile, exceeded by the peduncled, single spike:* flowers subsessile, one-sided, yellow or green; *perigonial divisions* exterior lateral cohering to near the summit, gibbous at the base, superior narrower, linear, *interior* much shorter, oblong, pointed, *fimbriate-serrate;* lip rhomboid, concave."—4″–6″ high; leaf 2½″–3″ long, 8‴ broad; flowers 6‴ long.—HAB. Trinidad (*Lindl.*); [Venezuela!].

** *Peduncles few–1-flowered.*

10. **P. sicaria,** *Lindl.! Stem upwards winged,* 3–4 times as long as the leaf; *leaf lanceolate-oblong, decurrent,* gradually passing into the downward tapering stem-wing, *much longer than the short, fascicled, 2–3-flowered peduncles;* perigonial divisions exterior little cohering, oblong-lanceolate, interior half as long, pointed; lip lanceolate with a hook at each side, 2-crested."—About 1′ high; leaf 4″ long, 1″ broad; flowers 4‴ long, "greenish with purple stripes."—HAB. Trinidad (*Lindl.*); [Venezuela!, New Granada].

11. **P. Wilsoni,** *Lindl.! Stem angular,* not margined, as long as or twice as long as the leaf; *leaf lanceolate,* or elliptical-lanceolate, *much longer than the fascicled, few–1-flowered peduncles;* "perigonial divisions exterior lateral cohering, interior oblong, pointed; lip ovate with angles blunt."—3″ high; leaf 1″ long, 2‴–4‴ broad.—HAB. Jamaica!, *Wils., Wullschl.;* [Cuba].

12. **P. discoidea,** *Lindl.* "Stem as long as or shorter than the leaf; *leaf ovate-lanceolate: peduncles fascicled, 1-flowered;* perigonial divisions exterior ovate, lateral cohering, superior twice as large, interior linear; lip cordate-ovate, bluntish, as long as the perigone."—"1½″ high; lip yellow, with a red spot in the middle."—HAB. Trinidad (*Lindl.*).

13. **P. ruscifolia,** *R. Br.* (*L.*). *Stem cylindrical,* twice–thrice as long as the leaf; *leaf elliptical-lanceolate,* tapering at the base and summit: *peduncles fascicled, 1-flowered, exceeded by the petiole,* included within a clasping-ovate, 2-fid sheath; perigonial divisions exterior lanceolate-acuminate, lateral cohering to the summit, interior half as long, conform to the former; lip minute, ovate-oblong, blunt.—*Jacq. Amer. Pict. t.* 212.—Epidendrum, *L.* Dendrobium, *Sw.*—About 1′ high, rigid; leaf 4″–5″ long, 1″ broad; flowers 3‴ long, greenish: ovary long, slender.—HAB. Jamaica, from cultivated specimens; Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! to Guiana! and Peru].

14. **P. pruinosa,** *Lindl.* (*R.*). *Stem cylindrical,* about as long as the leaf; *leaf lanceolate, about as long as* or shortly exceeded by *the single, filiform, few-flowered peduncle;* perigonial divisions exterior ovate-oblong, lateral cohering to near the summit, "interior little shorter, linear; lip small, ovate, pointed, with blunt angles below the middle."—2″–4″ high; leaf 1″–1¼″ long, 2‴–3‴ broad; flowers 1½‴ long, "yellowish."—HAB. Jamaica (*Lindl.*); Trinidad!, *Cr.;* [Guiana!, on trees].

15. **P. emarginata,** *Lindl.* "Stem delicate, shorter than the leaf; *leaf oblong,* emarginate, *longer than the capillary, 2-flowered peduncle;* perigonial divisions linear-lanceolate, exterior cohering to the middle, interior half as long; lip linear-lanceolate with lateral angles, saccate at the base, serrulate."—Specklinia, *Lindl.*—"Leaf about 1½″ long; flowers green, interior divisions white, lip rosy."—HAB. Jamaica (*Lindl.*).

§ 2. *Stems reduced, cæspitose: leaf approximate to the root.*

16. **P. aristata,** *Hook. Leaf spathulate-lanceolate, pointed,* long-tapering into the petiole, margined, *much shorter than the single, flexuose raceme; perigonial divisions exterior* lanceolate, *tapering from the middle into the awn-like summit,* interior half or one-third as long, lanceolate-acuminate; "lip ovate-oblong, blunt, with small, lateral lobes."—*Ann. Nat. Hist.* 2. *t.* 15: the interior perigone shorter than in our specimen, and long-fringed.—Leaf 8‴ long, 2‴ broad; peduncled raceme 3″–4″, flowers 4‴ long, the latter purple-veined.—HAB. Dominica!, *Imr.;* [Guiana].

17. **P. delicatula,** *Lindl.! Leaf spathulate, pointed,* tapering into the short petiole, margined, *one-third as long as the single, flexuose raceme;* "*perigonial divisions exterior linear-acuminate, bluntish,* nearly free, interior cuneate cut; lip little shorter than the pe-

rigone, oblong with basilar auricles, serrate, pubescent."—Leaf 6‴–4‴ long, 2‴–1½‴ broad; peduncled raceme 1½″ long.—HAB. Jamaica!, *Pd.*

18. **P. corniculata,** *Lindl.! Leaf spathulate, or elliptical-oblong,* tapering into the long petiole, margined, *little exceeded by the single, filiform, 1-flowered peduncle; perigonial divisions exterior lanceolate-acuminate,* erect, lateral cohering to near the summit, interior half as long, lanceolate; lip as long as the interior perigone, "rhomboid, blunt-acuminate."—Dendrobium, *Sw.* P. hymenantha, *Pl. Wright.* 1501.—Leaf about 1″ long, 2‴–4‴ broad; flowers 2‴ long, yellowish.—HAB. Jamaica!, *Pd., Wullschl.*, on trees and fences; [Cuba!; Mexico].

19. **P. lanceola,** *Spreng. "Leaf lanceolate, pointed,* tapering into the long petiole, *as long as the single, filiform, 2-flowered peduncle; perigonial divisions exterior lanceolate, blunt,* spreading, nearly free, interior one-fourth as long, ovate, ciliate; lip oblong, blunt, recurved."—*Sw. Adnot. t. 2. f.* 5.—Dendrobium, *Sw.* Specklinia, *Lindl.*—"Leaf 1½″ long; flowers minute, orange-coloured, with a purple, yellow-margined lip."—HAB. Jamaica (*Sw.*), on trees in the highest mountains.

20. **P. tribuloides,** *Lindl.! Leaf spathulate or lanceolate, bluntish,* tapering into the petiole; *peduncles 1-flowered, shorter than the petiole,* single, or a few fascicled, wholly enclosed by the scarious sheaths; perigonial divisions exterior papillose, linear-acuminate, lateral cohering to about the middle, interior one-fourth as long, oblong; lip as long as the interior perigone, "linear, recurved, pubescent."—*Sw. Adnot. t.* 1. *f.* 4.—Dendrobium, *Sw.*—Leaf 1½″–8‴ long, 4‴–2‴ broad; flowers 2½‴ long, "red;" capsule echinate.—HAB. Jamaica!, *Wils., Wullschl.*; [Cuba!; Mexico to Costarica].

§ 3. *Primary stem creeping-radicant, secondary ones reduced, distant along it, each one-leaved.*

21. **P. sertularioides,** *Spreng. Leaf spathulate-linear, mucronulate, about as long as the single, 1–3-flowered, filiform peduncle;* perigonial divisions lanceolate-acuminate, exterior lateral little cohering, interior little shorter; lip as long as the interior perigone, ovate-oblong, with small lateral lobes at the middle, blunt.—Dendrobium, *Sw.* Specklinia, *Lindl.*—Leaf 8‴–12‴ long, 1‴–1½‴ broad; flowers 1½‴ long.

α. Peduncle 1-flowered, 2-bracteolate above the middle; flower "whitish with yellow tips."

β. trinitensis. Peduncle 3–2-flowered: flowers distant, "pale-purple with a purple lip" (*Bradf.*)

HAB. Jamaica!, *Wullschl.* (*α*); Trinidad!, *Cr., Bradf.*, near Arima (*β*).

22. **P. polygonoides,** *Gr.* (*n. sp.*). *Leaf elliptical-lanceolate, or elliptical-oblong, bluntish,* shortly petioled, *much longer than the short, single, 1-flowered peduncle;* perigonial divisions lanceolate-acuminate, exterior lateral little cohering at the base, interior half as long; lip clawed-oblong, with small lateral lobes about the middle.—Nearly allied to the preceding, and presenting the same habit, but peduncle only about twice as long as the petiole. Stems 2‴–4‴ distant from each other; leaf thickish, 6‴–4‴ long, 2‴ broad; peduncle 2‴ long, wholly or half concealed by the enclosing sheath; flowers 1‴ long, "pale with purplish tips, and a purple lip."—HAB. Trinidad!, *Cr., Bradf.*, on trees near Arima.

23. **P. testifolia,** *Lindl.! Leaf oval-roundish, or elliptical-oblong, clasping-sessile* at the summit of the short petiole-like, secondary stem; *flower single, subsessile,* supported by a keeled-conduplicate sheath: its keel lacerate-winged; perigonial divisions exterior spathulate-oblong, pointed, pilose, lateral cohering to about the middle, interior half as long, spathulate, blunt; "lip spathulate, ciliate, 2-crested at the base, recurved above the claw."—Cymbidium, *Sw.*—Primary stem thicker than in the two preceding species, and its sheaths spreading, secondary ones 2‴–3‴ long; leaf thickish, 9‴–12‴ long, 10‴–4‴ broad; flower deep-purple, 3‴ long: its sheath 2‴ long, concealing the ovary.—HAB. Jamaica!, *Pd., Wils., March, Wullschl.*, on trees and rocks; [Cuba!; Venezuela].

§ 4. *Stems cæspitose, furnished with several obliquely spreading-tubular, pointed, rigid-margined sheaths: leaves margined.* (Lepanthiformes, *Lindl.*)

24. **P. biflora,** *Focke.* Stem hispidulous, longer or as long as the leaf: sheaths with a

ciliate, ovate-roundish limb; *leaf elliptical, or elliptical-oblong*, contracted at the petioled base; *peduncles fascicled, much shorter than the leaf*, 5–2-*flowered;* perigonial divisions lanceolate-linear, exterior lateral cohering below, interior half as long; lip linear, ciliate.—Leaf 1″–1½″ long, 8‴–10‴ broad: petiole 2‴ long; peduncles about 4‴, flowers 2‴ long, the latter "purple" (*Bradf.*), pale in drying.—HAB. Trinidad!, *Cr.*, *Bradf.*, on trees, in moist woods, Arima; [Guiana].

25. **P. lepanthiformis,** *G. Rchb.* Stem hispidulous, about as long as the leaf: sheaths with a ciliate, ovate limb; *leaf oblong-lanceolate, bluntish*, tapering into the petiole; *peduncled racemes* geminate-solitary, *half as long as the leaf:* flowers approximate; perigonial divisions exterior lateral cohering to near the summit, saccate at the base, superior linear, "interior minute, linear; lip obovate-oblong, blunt."—P. villosa, *Knowl.*, *Westc.* (*sec. Lindl.*): name objectionable, the down being not villous.—Leaf 2″ long, 8‴ broad; flowers 1‴ long, "purple."—HAB. Trinidad!, *Cr.;* [Mexico to Guiana!].

26. **P. foliata,** *Gr.* (*n. sp.*). Stem filiform, puberulous at the angles, often somewhat branched, or distantly 2–several-leaved, much longer than the leaves: sheaths with a ciliate, roundish limb; *leaf elliptical, or obovate, somewhat pointed*, cuneate at the petioled base; *peduncled racemes* geminate-solitary, *distantly few-flowered, exceeding the leaf;* perigonial divisions exterior oblong-lanceolate, lateral cohering to the summit, interior ovate, pointed, half as long; lip exceeding the interior perigone, linear, blunt, puberulous above.—Habit of *Lepanthes rotundata;* 2″–3″ high; leaves 6‴–4‴ long; 2½‴ broad; flowers scarcely 1‴ long: perigone erect, yellow in drying.—HAB. Jamaica!, *Wils.*

27. **P. microlepanthes,** *Gr.* (*n. sp.*). Stem reduced, glabrous, usually much shorter than the leaf: sheaths 2–3, with a glabrous, deltoid limb; *leaf elliptical, or elliptical-roundish, somewhat pointed*, tapering into the petiole; *peduncled racemes fascicled, half as long as the leaf:* flowers about 5, approximate; perigonial divisions exterior ovate, pointed, lateral cohering below the 2-dentate summit; interior minute, spathulate, half as long as the breadth of the exterior ones; lip little shorter than the exterior perigone, oblong, blunt.—Habit of *Lepanthes tridentata*, var. *Loddigesiana;* leaf 4‴–3‴ long, 2‴–3‴ broad; flowers ½‴ long: perigone erect, yellow in drying.—HAB. Jamaica!, *Macf.*, *Wils.*, *March*, on tree-barks, among mosses.

2. LEPANTHES, *Sw.*

Character of *Pleurothallis*, but lip adnate to the column, usually 2-partite, and pollinaria clavate.—Stems *cæspitose*, 1-*phyllous:* sheaths *obliquely spreading-tubular, rigid-margined, pointed.*

28. **L. rotundata,** *Gr.* (*n. sp.*) Stem filiform, glabrous, much longer than the leaf: sheaths with a subulate, minutely ciliate limb; *leaf elliptical, rounded–3-mucronate*, contracted at the base, *exceeded by the fascicled* (–single), peduncled *racemes; perigonial divisions* exterior deltoid, *lateral cohering below the 2-dentate summit*, interior much smaller, obversely deltoid; lip-segments diverging, spathulate, adnate to the middle of the column.—About 2″ high; leaf 6‴(–8‴) long, 4‴ broad; flowers 2‴ long.—HAB. Jamaica!, *Macf.*

29. **L. tridentata,** *Sw.* "Stem filiform, or reduced; *leaf elliptical, pointed–3-mucronate*, cuneate at the base, *exceeded by the single, few*(–1)-*flowered peduncles; perigonial divisions exterior* ovate, pointed, *lateral cohering to the middle*, interior half as long, puberulous, transversely oblong-lanceolate, blunt at one, bluntish at the other angle; lip-segments lanceolate, ascending from the base of the lip."—*Sw. Adnot. t.* 2. *f.* 2.—L. Loddigesiana, *G. Rchb.* (L. tridentata, *Lindl.: Bot. Reg. t.* 1762): a form with reduced stems.—"Stem 2″–2‴, peduncle 8‴ long; leaf 5‴–8‴ long, 2‴–4‴ broad; flowers 1‴ long, purple- and yellow-variegated."—HAB. Jamaica (*Sw.*), on trees, in the mountains.

30. **L. pulchella,** *Sw.* Stem filiform, glabrous, longer than or as long as the leaf: sheaths with a ciliate, ovate-deltoid limb; *leaf elliptical, pointed*, cuneate at the base, *about as long as the few*(–1)-*flowered, single* (–fascicled) *peduncles; perigonial divisions exterior ovate, acuminate, all cohering only at the base*, spreading, interior semisagittate, linear-acuminate, half as long; lip-segments incurved-linear, converging, inserted near or below the summit of the column.—*Sw. Adnot. t.* 2. *f.* 3.—Stem 6″–2″, leaf 8‴–12‴ long, the

latter 4‴–8‴ broad; flowers 2‴ long, "yellow and purple-variegated within."—HAB. Jamaica!, *Macf.*, *Pd.*, *Bancr.*, on trees, near Blue Mountains Peak.

31. **L. sanguinea,** *Hook.* "Stem filiform, about as long as the leaf: sheaths glabrous; *leaf elliptical, bluntish, longer than the short, fascicled, 1-flowered peduncles;* perigonial divisions exterior deltoid, ciliate, lateral cohering to the middle, interior transversely oblong; lip-segments ovate" (*sec. icon.*).—*Bot. Mag. t.* 4112.—"About 1″ high; leaf 6‴ long, 4‴ broad; flowers crimson."—HAB. Jamaica (*Hook.*).

32. **L. concinna,** *Sw.* (*R.*). Stem filiform, puberulous, longer than the leaf: sheaths with an ovate-roundish, ciliolate limb; *leaf ovate, pointed,* cuneate-rounded at the base, *about twice as long as the* single (–fascicled), distichous, spiciform, *peduncled racemes; perigonial divisions exterior broadly ovate, pointed,* cohering at the base, lateral to beyond it, spreading, interior half as long, half-cordate-lanceolate, acuminate; "lip-segments incurved-linear, converging, inserted near the summit of the column."—*Sw. Adnot. t.* 2. *f.* 4. —L. tridentata, *Lindl. Pl. Wr.* 1510 (*non Bot. Reg.*, *non Sw.*).—2″–6″ high; leaf 2″–8‴ long, 10‴–5‴ long; flowers 1‴ long, "yellow, crimson within."—HAB. Jamaica, *Wullschl.*, on trees: [Cuba!].

33. **L. cochlearifolia,** *Sw.* Stem somewhat rigid, hispid, longer than the leaf: sheaths with an ovate-roundish, ciliate limb; *leaf ovate-roundish, with a bluntish point, twice–thrice as long as the* fascicled, or solitary, *few-flowered peduncles; perigonial divisions exterior ovate, acuminate, all cohering at the base,* spreading, "interior transversely lanceolate-linear, acuminate, half as long; lip-segments incurved-linear, spreading, inserted at the base of the column."—*Sw. Adnot. t.* 2. *f.* 1.—2″–3″ high; leaf 1″ long, 8‴–10‴ broad; flowers 2‴ long, "purple."—HAB. Jamaica!, *Wils.*, on trees and rocks, very rare.

3. STELIS, *Sw.*

Character of *Pleurothallis,* but column short, furnished with two lateral appendages at its summit. *Perigonial divisions* exterior cohering at the base, interior minute.—Flowers *racemose, usually very small.*

34. **S. ophioglossoides,** *Sw.* (*L.*). *Leaf oblong-linear,* bluntish, *long-tapering at the base, longer than the stem,* shorter than the peduncled, 1-sided, slender raceme; perigonial divisions exterior deltoid, "interior and lip angular-truncate."—*Jacq. Amer. Pict. t.* 211: leaf broader than in our forms, and racemes fascicled.—Epidendrum, *Jacq.* S. scabrida, *Lindl.*, is described as a lower plant with a narrower leaf-base: such forms are not distinguishable in the herbarium.—Leaf 4″–6″(–2½″) long, 6‴–4‴ broad; flowers ½‴ long, "greenish with a tinge of purple."—HAB. Jamaica!, *Wils.*, *March;* Dominica (*S. scabrida,* Lindl.), S. Vincent! (apparently the same); Trinidad!, *Bradf.;* [Cuba! and Mexico! to Guiana!].

35. **S. micrantha,** *Sw.* (*Hook.!*). *Leaf lanceolate-oblong,* bluntish, *contracted-tapering at the base, usually shorter than, or as long as the stem,* exceeded by the slender, spiciform raceme; flowers nodding, 1-sided-distichous; perigonial divisions exterior deltoid, "interior and lip truncate."—Leaf 2½″–1″ long, 8‴–4‴ broad; flowers "whitish, red within." —HAB. Jamaica!, *March,* on trees and rocks in the mountains.

4. OCTOMERIA, *R. Br.*

Lip jointed with the produced base of the column: perigonial divisions nearly distinct, interior inserted into the base of the column. *Column* naked: pollinia 8, obovate-oblong, —Stem 1-*leaved, as in* Pleurothallis; flowers *fascicled, at the base of the leaf.*

36. **O. graminifolia,** *R. Br.* (*R.*) Leaf lanceolate-linear; flowers "pale-yellow, with two red spots;" perigonial divisions ovate-lanceolate, interior little shorter; lip cuneate-oblong, blunt, or minutely denticulate at the summit, *obliquely 2-crested,* and with 2 short lateral lobes at the middle.—*Bot. Mag. t.* 2764.—Epidendrum, *L.*—Stems serial along a creeping, primary axis; leaf 4‴ broad; flowers 3‴ long.

α. Leaf longer than the stem (5″–4″ long); lip nearly as long as the interior perigone.

β. ophioglossoides. Leaf about as long as the stem (3″ long); lip half as long as the interior perigone.—Stelis ophioglossoides, *Sieb. Pl. Mixt.* 452! (*non Sw.*).

HAB. Dominica!, *Imr.* (*α, β*); [Guadeloupe! (*β*)].

5. MASDEVALLIA, *R. P.*

Lip jointed with the column, included: perigonial divisions exterior cohering and forming an infundibular tube, acuminate or awned at the summit, interior small. *Column* naked: pollinaria 2, obovate-oblong.—Stem 1-*leaved, as in* Pleurothallis*;* flowers *usually large, single at the base of the leaf.*

37. **M. fenestrata,** *Lindl.!* Leaf elliptical-oblong, bluntish, cuneate at the petioled base, about as long as the ventricose-sheathed stem; peduncle about as long as the petiole; *perigone* deep-purple: *tube* campanulate, gibbous at the base, *as long as the pointed lobes, the latter cohering at the point;* "interior divisions ovate, pointed; lip oblong, acuminate, with small lateral lobes about the middle."—*Bot. Mag. t.* 4164.—Pleurothallis atropurpurea, *Lindl.!*—Leaf 2″–2½″ long, 1″ broad; flower 6‴ long.—HAB. Jamaica!, *March;* [Cuba!].

6. MICROSTYLIS, *Nutt.*

Lip spreading from the column: perigonial divisions distinct, spreading. *Column* low; pollinaria 4, collateral.—Root *terrestrial;* stem *terminal from an aerial tuber;* flower *small, racemose, or corymbose.*

38. **M. umbellulata,** *Lindl.!* Stem 2-leaved, 5-angular, or subcylindrical; leaves opposite, long-sheathing, ovate, pointed; *flowers* greenish, *approximate in a fastigiate corymb, or short raceme:* pedicels at length much longer than the flower: bract lanceolate-acuminate; perigonial divisions exterior ovate, interior linear; *lip* clasping-sessile, *hastate-deltoid, mucronate-emarginate:* the mucro inflexed towards the large, basilar concavity.—Malaxis, *Sw.*—1′ high; leaves 2″–4″, lower pedicels 6‴, flowers 1‴ long.—HAB. Jamaica!, *Pd.*, in mountain-woods, Gap of S. Andrews; Dominica!, *Imr.;* Trinidad!, *Cr.*, S. Anne; [Cuba!; Mexico!].

39. **M. spicata,** *Lindl.* Stem 2-leaved, 4-angular, or subcylindrical; leaves slightly alternating, long-sheathing, ovate-roundish, mucronulate; *flowers* greenish, *somewhat distant in an elongated raceme:* pedicels at length thrice as long as the flower: bracts linear-acuminate; perigonial divisions exterior oblong, interior linear; *lip* clasping-sessile, *hastate-subquadrate, shortly* 3-*lobed:* middle lobe bluntish.—*Sw. Fl. t.* 28. *inf. analyt.*, middle lobe of the lip more produced than in our form.—Malaxis, *Sw.*—1½′–½′ high; leaves 3″–1½″, raceme 1″–2″, at length 6″–8″, flowers 1‴ long.—HAB. Jamaica!, *Pd.*, mountains of Westmoreland; [Cuba!].

7. LIPARIS, *Rich.*

Lip parallel below to the column: perigonial divisions distinct, spreading. *Column* slender, winged at the summit: pollinaria 4, collateral.—Root *terrestrial in the West Indian species;* stem *terminal from an aerial tuber;* flowers *racemose, or spicate.*

40. **L. elliptica,** *G. Rchb.* (*ex diagn.*). Scape margined by a wing; *leaf single, oblong,* bluntish; flowers in a spiciform raceme: bracts exceeding or equalling the ovary; *perigonial divisions linear;* lip ovate repand, abruptly acuminate with the midrib thickish, as long as the perigone; column incurved.—Sturmia, *G. Rchb.* L. jamaicensis, *Lindl. in Herb. Hook.*—3″–12″ high; leaf 2″–6″ long, 8‴–10‴ broad; flowers 2‴–3‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, in savannahs, Clarendon; Trinidad!, *Cr.;* [Venezuela; Guiana].

41. **L. elata,** *Lindl.* Scape margined by a wing; *leaves* 3–4, *large, elliptical,* or ovate, pointed, cuneate at the long-sheathing base; flowers in a spiciform raceme: bracts about as long as the ovary; *perigonial divisions linear-oblong;* lip cuneate-ovate, blunt, as long as the perigone, exceeding the thickish, incurved column.—*Bot. Reg. t.* 1175: the synonym of the Indian *L. bituberculata*, Lindl. (added afterwards), is to be excluded.—1′–1½′ high; leaves 6″–8″ long, 3″–4″ broad; flowers 3‴ long.—HAB. Jamaica!, *Dist.*, *Wils.*, *March;* Dominica!, *Imr.;* [Cuba! to Peru! and Brazil!].

8. BOLBOPHYLLUM, *Pet. Th.*

Lip jointed with the produced base of the column: perigonial divisions connivent-erect,

exterior lateral often cohering at the base. *Column* short, with 2 lateral appendages at the summit: *pollinaria* 4, often unequal.—Scapes *radical, lateral to aerial tubers.*

Sect. Bolbophyllaria, *G. Rchb.*—"*Pollinaria incumbent*" (R.), "2 *posterior much smaller*" (Bradf.).—Flowers spicate: rhachis usually clavate.

42. **B. pachyrrhachis,** *Gr.* Tubers sub-4-gonal, 2(–1)-leaved; leaves lanceolate-oblong or oblong-linear, somewhat pointed, exceeded by the scape; rhachis clavate, acuminate: flowers numerous, sessile, little exceeding the deltoid bract, perigonial divisions exterior subulate, lateral cohering at the base, interior much smaller, oblong, blunt; lip short, oblong, blunt, fleshy, shortly clawed.—*Rich. Cub. t.* 74.—Pleurothallis, *Rich.* Bolbophyllaria, *G. Rchb.*—1′–2′ high; leaves 4″–5‴ long, 6‴–10‴ broad; spike 5″–8″, flowers 2‴–3‴ long.—Hab. Trinidad!, *Cr.*, *Bradf.*, common; [Cuba].

Tribe II. *EPIDENDREÆ.—Pollinaria waxy, distant from the stigma, supported by a free stalk (the caudicula). Anther of* Malaxideæ.—Vegetation usually aërial.

9. EPIDENDRUM, *L.*

Lip clawed: the claw usually united with the column. *Pollinaria* 4: caudiculæ reflexed, as many (–2).—Inflorescence *terminal in the West Indian species.*

§ 1. *Lip free or nearly free from the column.—Aerial tubers: scape terminal.*

43. **E. Ottonis,** *G. Rchb.!* *Tubers* oblong or oval-oblong, compressed, 1-*phyllous; leaf oblong-linear*, bluntish, tapering at the base, exceeding the scape; sterile bracts membranaceous, exceeding the internodes; raceme 5–6-flowered, simple: *flowers whitish; perigonial divisions lanceolate, pointed, conform; lip* free, entire, *nearly conform to the perigonial divisions;* column minutely auricled.—Isochilus triander, *Bradf. ms.*: the Trinidad form being constantly 3-androus (*Br.*) or 3–5-androus (*Cr.*) by monstrosity, while Otto's Venezuela plant, as Dr. G. Reichenbach informs me, is normally developed.—Allied to *E. auritum*, Lindl., but flowers smaller, column not deeply 3-lobed, and anther blunt, tailless.—Tubers serial, 6‴–12‴ long, 3‴ broad; leaf 5″–6″ long, 3‴ broad; flowers 3‴–4‴ long, half as long as the smooth ovary; terminal anther 4-celled, lateral in the monstrous flowers incomplete.—Hab. Trinidad!, *Bradf.*, *Cr.*, frequent, on trees; [Cuba! to Venezuela].

44. **E. angustifolium,** *Sw.* (*L. in Herb. Hook.*). *Tubers* ovate or ovate-lanceolate, little compressed, 1-*phyllous; leaf linear*, grass-like, exceeded by the scape; scape filiform, naked: bracts minute, pointed; raceme lax, branched at the base: pedicels as long as the ovary; *perigonial divisions lanceolate, pointed, conform; lip* as long, free, *broadly 3-lobed* above the claw: lobes subequal, lateral half-round, middle ovate; column auricled below the anther-bed.—Tubers serial, 6‴–8‴ long, 4‴–3‴ broad; leaf 6‴ long, 1‴ broad; scape about 1′, bracts $\frac{1}{3}$‴–$\frac{1}{2}$‴, pedicels 2‴, flowers 2‴–3‴ long.—Hab. Jamaica!, *Pd.*, on trees, summit of Dolphin's Peak.

45. **E. Bradfordii,** *Gr.* (*n. sp.*). *Tubers subglobose,* 1-*phyllous; leaf linear-oblong,* bluntish, $\frac{1}{2}$ or $\frac{1}{3}$ as long as the scape; sterile bracts distant, short, ovate, membranaceous; raceme 5–6-flowered, simple: *flowers white; perigonial divisions oblong-lanceolate, pointed, conform; lip 3-fid: lobes pointed,* lateral oblong, middle little longer, acutely obovate; column auricled below the anther.—E. globosum, *Bradf. ms.* (*non Jacq.*).—Allied to *E. chloroleucum*, Hook., but leaf single, and lobes of the lip less unequal, lateral erect-spreading.—Tubers 8‴–10‴ diam.; leaf 5″–6″ long, 6‴ broad; scape 1′–1$\frac{1}{2}$′ high; bracts 1‴–2‴, pedicels 4‴, ovary 6‴, perigone 4‴–5‴ long.—Hab. Trinidad!, *Bradf.*, Arima.

46. **E. aciculare,** *Batem.* "*Tubers* oblong, 2-*leaved; leaves linear,* channelled, pointed, as long as the 6–7-flowered scape; *flowers* in a simple raceme, *purple with a whitish lip;* perigonial divisions linear-lanceolate, pointed, conform; *lip 3-lobed:* lateral lobes small, linear, blunt, middle ovate-oblong, mucronate."—*Bot. Mag. t.* 4572.—E. linearifolium, *Hook.*—Hab. Bahamas (*Lindl.*); [Mexico].

47. **E. gracile,** *Lindl.* "*Tubers* ovate, *several-leaved; leaves oblong-linear; flowers in a simple,* loose *raceme, variegated;* perigonial divisions cuneate-oblong; *lip 3-lobed:* lateral lobes half-ovate, half as long as the middle one, the latter oblong, very blunt,

crispate."—*Bot. Reg. t.* 1765.—"Flowers green: lip yellow, streaked with purple."—HAB. Bahamas (*Lndl.*).

48. **E. rufum,** *Lindl.* "*Tubers* pyriform, 2–3-*leaved; leaves lanceolate-ligulate*, shorter than the scape; *flowers in a slightly branched panicle, brownish-yellow;* perigonial divisions elliptical, pointed; *lip* 3-*lobed:* lateral lobes short, half-ovate, middle obovate, revolute at the margin, rounded at the base; column membranaceous-margined."—"1′ high, or more; leaves 6″–8″ long; lip fleshy, 2-costate at the base."—HAB. Bahamas (*Lindl.*).

49. **E. altissimum,** *Batem.* "*Tubers cylindrical,* 2–3-*leaved, scape* high, *paniculate;* perigonial divisions oblong, pointed; *lip* 3-*lobed:* lateral lobes dimidiate, blunt, flexuose, middle dilated, mucronate, undulate, recurved, 2-costate at the base."—HAB. Bahamas (*Lindl.*), in rocky districts.

50. **E. bahamense,** *Gr.* *Tubers* pyriform, 2-*leaved; leaves linear-oblong, blunt,* much shorter than the scape; flowers paniculate: bracts small, deltoid, sterile distant; perigonial divisions spathulate, bluntish, interior broader; *lip* 3-*lobed*, slightly 2-callous at the base: lateral *lobes* basilar, half-ovate, somewhat pointed, embracing the column, *middle* broader, *obovate-2-lobed*, complicated, contracted at the base; column with deltoid wings above.—Cymbidium diurnum, *Lindl.* (*non Sw.:* G. Rchb., who saw Jacquin's original, informs me that the latter belongs to *E. virens*, Lindl.).—Nearly allied to *E. phœniceum*, Lindl.!, but flowers half as large, the lateral lobes of the lip much smaller than the middle lobe, and calli of the lip-base less prominent, tapering, not abrupt at the summit.—2′ high; tubers 1½″, leaves 6″–8″, perigone 8‴ long, all divisions of equal length, the exterior 2‴, the interior 3‴ broad; flowers numerous, brown-purple in drying; pollinia 4.—HAB. Bahamas!, *Swains.*

51. **E. plicatum,** *Lindl.* (*R. ex ic. Catesb.*) "*Tubers* ovoid, 2-*leaved; leaves spathulate-lanceolate,* pointed, shorter than the scape; *flowers in a simple, corymbiform raceme, red-variegated;* perigonial divisions spathulate-lanceolate, pointed; *lip* 3-*lobed:* lateral *lobes* oblong-lanceolate, undulate, *middle cordate-deltoid, cuspidate*, crenate, plaited, with 2 large keeled calli at the base."—*Catesb. Carol.* 2. *t.* 88. *fig. sin.*—"1½′ high; leaves 6″, perigone about 1″ long; lip crimson."—HAB. Bahamas (*Catesb.*); [Cuba].

52. **E. bifidum,** *Aubl., Sw.!* *Tubers* shortly oblong-lanceolate, 2–4-*leaved; leaves linear-lanceolate,* blunt, much shorter than the scape; sterile bracts distant, long, appressed-sheathing, floral ones minute; *flowers* in a branched raceme, *rosy-variegated;* perigonial divisions lanceolate-oblong: *lip* 3-*partite* above the claw: lateral *segments* ovate-roundish, embracing the column, *middle* larger, exserted, obovate, *reniform-2-lobed* at the summit.—*Redout. Lil. t.* 84.—1′–3′ high; tubers 1″ long; leaves 4″–6″ long, 5‴–8‴ broad; pedicels 3‴–4‴, ovary 4‴, perigone 6‴, lip 8‴ long, the latter 4‴ broad at the abruptly dilated summit, its lobes round: colour rosy with the lip purple above, but differently described by Plumier (*Ed. Burm. t.* 186. *f.* 1), and in E. bifidum, *Lindl.* (*Bot. Reg. t.* 18. *f.* 9).—HAB. S. Kitts!, *Sw.;* [Haiti! to Guiana!].

53. **E. bicornutum,** *Hook.* *Tubers* elongated, 4–6-nodal, *linear-fusiform, 2–several-leaved; leaves* thick, *lanceolate-oblong or oblong,* blunt; sterile bracts distant, appressed-sheathing, floral ones smaller, spreading, oblong; *flowers* in a simple raceme, *white with a variegated lip;* perigonial divisions elliptical, cuspidate; *lip* 3-*fid, prominently* 2-*callous at the base:* lateral *lobes* oblong, bluntish, clasping, *middle* much longer, exserted, *oblong, pointed.—Bot. Mag. t.* 3332.—1′–3′ high; leaves 8″–4″ long, 10‴–6‴ diam.; leaves 4″–5″ long, 1″–1⅓″ broad; fertile bracts 2‴, ovary with the pedicel 1″, perigone 12‴–10‴ long; lip white with red dots and the conical calli yellow.—HAB. Trinidad!, *Bradf.*, on rocks and decayed trees, abundant along the coast, and in the Boca islands.

54. **E. indivisum,** *Bradf. ms.* (*n. sp.*). *Tubers* 3–4-nodal, *linear-fusiform,* 4–6-*leaved; leaves* thick, *oblong-linear,* blunt: sterile bracts distant, appressed-sheathing, floral ones smaller, spreading, oblong; *flowers* in a simple raceme, *white;* perigonial divisions elliptical-oblong, pointed; *lip undivided* or minutely auricled above the base, 2-callous at the base, *subulate-lanceolate, acuminate.*—Nearly allied to the preceding, but lower, 6″–10″ high, leaves 3″ long, 5‴–6‴ broad, perigone 6‴ long, "pure-white;" lip scarcely exserted.—HAB. Trinidad!, *Bradf.*

55. **E. polybulbon,** *Sw. Tubers serial,* oval or ovate-oblong, subcompressed, 2-*leaved; scape short,* 1-*flowered; leaves ovate or ovate-lanceolate,* bluntish; perigonial divisions lanceolate, acuminate, greenish; *lip* white, *undivided, roundish* above the claw; column red, 2-horned.—Dinema, *Lindl.!*—1″–2″ high; leaves 1½″–4‴, perigone and lip 6‴ long.—Hab. Jamaica!, *Macf., Pd., March,* on trees, in the mountains; [Cuba!; Mexico!].

56. **E. bletioides,** *Gr.* (*n. sp.*). *Tubers* ovate-lanceolate, 2-*leaved; leaves* fleshy, *lanceolate-oblong,* blunt, shorter than the scape; sterile bracts distant, short, appressed-sheathing, blunt, floral ones subulate, much shorter than the pedicel; *flowers distant in a spreading panicle, or racemose;* perigonial divisions pointed, exterior lanceolate, interior oblong-lanceolate; *lip undivided, ventricose-concave, elliptical, pointed,* with 2 linear crests below the middle: claw very short; column obovate, sharply 3-dentate at the broad summit.—Allied to *E. subaquilum,* Lindl. (sec. Rchb. in lit.).—1′–1½′ high; leaves 5″–6″ long: their number is not quite certain, as they are detached from our specimen; perigone 6‴ long, pale-brown in drying.—Hab. Jamaica!, *Pd.,* Hanover.

§ 2. *Lip adnate to the column.—Aerial tubers: scape terminal.*

57. **E. pygmæum,** *Hook. Tubers* serial, *linear-fusiform,* sub-3-gonal, supported by a few, large, loose scales, 2-*leaved; leaves oblong-lanceolate,* pointed; *flowers* 1–3 *at the summit of the tuber, shortly pedicellate, white;* perigonial divisions exterior lanceolate, "interior linear-acuminate; *lip* 3-*lobed:* lateral lobes rounded, embracing the column, middle deltoid, acuminate."—*Bot. Mag. t.* 3233: a form with thicker tubers and the perigone greenish with a white lip, the latter with a red spot at the point.—Tubers 1″ long, 2‴–3‴ diam., exceeding the basilar scales; leaves 3″–1½″, flowers about 6‴ long; capsule 3-winged.—Hab. Jamaica!, *Pd., Wullschl.,* on rocks and trees; Trinidad!, *Bradf.,* abundant on old calabash-trees; Mexico to Brazil].

58. **E. serrulatum,** *G. Rchb. Tubers filiform,* enclosed by ragged scales, 1–2-*leaved; leaves grass-like, linear* or linear-lanceolate, crenulate, *as long as or exceeding the* short, filiform *scape; raceme few-flowered: flowers* "*brown-red,*" subdistant: bracts ovate, acuminate, about as long as the pedicel, lowest sterile; perigonial divisions ovate-lanceolate, pointed; "*lip undivided,* embracing the column, tapering above."—Cymbidium, *Sw.*—3″–1″ high, cæspitose; leaves 2‴–3‴ broad; perigone 2‴–3‴ long (not yet opened): lip probably nearly conform to the divisions.—Hab. Jamaica!, *Macf., Pd.,* on trees near Blue Mountain Peak.

59. **E. ciliare,** *L. Tubers* of several nodes, *clavate-fusiform,* 2–3-*leaved; leaves oblong,* oblong-lanceolate or oval, *blunt,* usually exceeded by the scape; *flowers white* or whitish, *in a spreading raceme:* bracts oblong-lanceolate, twice or more exceeded by the ovary, inferior sterile; perigonial divisions linear-acuminate, expanded; *lip obovate, cut into flexuose fringes,* the terminal division exserted.—*Jacq. Amer. Pict. t.* 209.—E. cuspidatum, *Lodd.*—1′–2′ high; leaves 4″–8″, perigone 1½″–2″ long.—Hab. Jamaica!; Antigua!, *Wullschl.,* Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad!, *Bradf.,* on rocks and decayed trees; [French islands!, *Sieb. Mart.* 207; Mexico! to Guiana!, New Granada!].

60. **E. variegatum,** *Hook.* (*L.*). *Tubers fusiform,* 2(–"4")-*leaved; leaves lanceolate-oblong, bluntish,* often as long as or exceeding the scape, the latter supported by a spathe; *flowers variegated,* greenish with purple spots and streaks, racemose: bracts minute, deltoid; *perigonial divisions* spathulate or obovate, *blunt,* exceeding the lip; *lip undivided,* small, *obovate,* apiculate, longitudinally 2-callous, approximate to the column.—*Bot. Mag. t.* 3151.—8″–20″ high; leaves 6″–10″ long, often separated by an internode; perigone 4‴–5‴ long.—Hab. Jamaica (*Lindl.*); [Cuba! to Brazil].

61. **E. fragrans,** (*Sw. L.*). *Tubers fusiform,* supported by a few large scales, 1-*phyllous; leaves lanceolate-oblong, blunt,* exceeding the scape, the latter supported by a spathe; *flowers whitish with purple streaks on the lip,* in a short raceme: bracts small; *perigonial divisions* exterior lanceolate-acuminate, interior shorter, as long as the lip, elliptical, *pointed; lip undivided, roundish,* cuspidate.—*Bot. Mag. t.* 152.—E. cochleatum, *Curt.* (*non L.*).—6″–12″ high, leaves 6″–8″, perigone 8‴–12‴ long.—Hab. Jamaica!, *Dist., Lane, Wullschl.,* on trees and rocks; Dominica!, *Imr.;* Trinidad!, *Bradf.;* [Cuba! to Brazil!].

62. **E. cochleatum,** *L.* *Tubers ovate-lanceolate or ovate,* compressed, costate, supported by scales, *2-leaved; leaves oblong, pointed,* tapering at the base, about as long as the scape, the latter supported by a spathe; *flowers greenish, with a purple* or purple-variegated *lip,* racemose: bracts small; *perigonial divisions* recurved, lanceolate-linear, *acuminate,* longer than the lip; *lip undivided, cochleate, cordate-roundish,* pointed, 2-callous at the base.—*Catesb. Carol.* 2. *t.* 88. *fig. dextr.*—1′–2′ high; leaves 1″–1¾″ broad; perigone 1″–1½″, lip 8‴ long.—Hab. Bahamas (*Catesb.*); Jamaica!, *Al.*, *Wullschl.*, on trees and rocks: [Cuba!, Haiti!, and Mexico to Venezuela].

§ 3. *Lip adnate to the column; stem equal at the base: leaves alternate; inflorescence terminal.*

* *Stem spathaceous-bracteate below the inflorescence: spathes much longer than the fertile bracts.*

63. **E. trinitatis,** *Lindl.!* Stem leafy, 2-edged; *leaves lanceolate, blunt; flowers pale* with a yellow lip, in a terminal, simple, peduncled, nodding, many-flowered raceme: *peduncle supported by a single,* long, complicated, oblong-linear, herbaceous *spathe; perigonial divisions* exterior elliptical-lanceolate or lanceolate, *interior* shorter, *setaceous; lip 3-lobed,* falcate: lateral *lobes* subquadrate, pointed, *middle longer, subulate,* 3-callous at the base.—1′–1½′ high; leaves 4″, spathe 3″, perigone 3‴ long.—Hab. Trinidad (*Lindl.*); [New Granada!, *Pd.*].

64. **E. rivulare,** *Lindl.!* Stem leafy; *leaves lanceolate or lanceolate-linear, pointed; flowers greenish and red-variegated* with a pale lip, in a few-flowered, simple raceme: *peduncle concealed by distichous,* contiguous, keeled-complicated oblong-linear, herbaceous *spathes; perigonial divisions* exterior oblong-lanceolate, pointed, interior as long, *linear; lip 3-lobed: lateral lobes* subquadrate, *fimbriate-cut,* spreading, *middle linear, 3-dentate* at the dilated summit.—1½′–2′ high; leaves 5″–3″, spathes 10‴–18‴, perigone 8‴ long.—Hab. Jamaica!, *Pd.*, Dolphin's Peak; [Cuba!, Haiti!].

65. **E. lanceolatum,** *Bradf. ms.* (*n. sp.*). Stem leafy; *leaves lanceolate, bluntish; flowers whitish,* in a few-flowered, short raceme: *peduncle concealed by a few distichous,* contiguous, keeled-complicated, oblong-linear, pointed, herbaceous *spathes; perigonial divisions* exterior lanceolate-linear, acuminate, *interior* as long, *linear-acuminate; lip 3-lobed,* as long as the perigone; *lateral lobes half-oblong-lanceolate,* bluntish, ascending, *middle* half as long again, *narrowly linear-acuminate.*—Allied to the preceding, 1′–1½′ high; leaves 4″–6″ long, 6‴–9‴ broad; spathes 6‴–4‴, perigone 1″ long, as long as the filiform ovary: its bract minutely ovate.—Hab. Trinidad!, *Bradf.*, Pitch Lake.

66. **E. discoidale,** *Lindl.!* Stem leafy; *leaves elliptical-lanceolate, pointed;* flowers in a terminal, shortly peduncled, branched, or simple raceme: *peduncle concealed by several approximate-distichous,* keeled-complicated, oblong-linear, pointed, herbaceous spathes; *perigonial divisions blunt,* exterior spathulate-oblong, interior as long, spathulate-linear; *lip 3-lobed: blade broader than long: lateral lobes reniform,* spreading, *middle* as long, half as broad, *subquadrate,* retuse-truncate.—Habit of *E. nutans,* Sw., but distinguished by the spathes, and a peculiar, callous, roundish area, occupying the blade of the lip below the lobes. —1′–1½′ high; leaves 6″ long, about 1½″ broad; spathes 1½″–1″, perigone 8‴–10‴ long; bracts small, lanceolate-acuminate.—Hab. Dominica!, *Imr.*

67. **E. nutans,** *Sw.* (*R.*). Stem leafy; *leaves oblong, bluntish,* clasping; *flowers yellow-green, in a* many-flowered, flexuose *panicle: its racemose branches nodding, interior supported by a large, scarious,* oblong-lanceolate *spathe: sterile spathe usually none; perigonial divisions bluntish,* exterior spathulate-oblong, interior as long, spathulate-linear; *lip 3-lobed: blade a little broader than long: lateral lobes trapezoid-roundish,* spreading, *middle* smaller, *subquadrate,* retuse-truncate.—1′–2′ high; leaves 8″–6″, spathes 2″, perigone 8‴–10‴ long; lip 2-callous at the base; bracts linear, 2‴–8‴ long.—Hab. Jamaica!, *Macf.*, *Wullschl.*, on trees.

68. **E. pallidiflorum,** *Hook.!* Stem leafy below; *leaves oblong-lanceolate or oblong, bluntish; flowers pale-yellow* "with a red stain at the top of the column," in a short, loose, simple, or branched raceme: *peduncle distantly bracteate,* with lanceolate-linear, scarious bracts; perigonial divisions spathulate-lanceolate or lanceolate-elliptical, bluntish; *lip*

shortly 3-*lobed, roundish: lobes subequal*, lateral spreading, middle subtruncate, 2-callous. —*Bot. Mag. t.* 2980.—8″–1½′ high; leaves 5″–2½″, sterile bracts 12‴–6‴, perigone 6‴ long; bracts upwards gradually shorter.—HAB. Dominica!, *Imr.*

69. **E. fuscatum,** *Sw.* (*L., R.*). Stem leafy below; *leaves elliptical-oblong or oblong-lanceolate, recurved-apiculate; flowers greenish or purple-greenish*, in a short, compact, long-peduncled raceme: *peduncle sheathed, with compressed-tubular*, long, scarious *bracts;* perigonial divisions bluntish, exterior spathulate-oblong, interior spathulate-linear; *lip cordate-roundish, slightly* 3-*lobed:* lateral *lobes* roundish, *middle* smaller, *emarginate.*—*Jacq. Amer. Pict. t.* 208.—E. anceps, *Jacq.* (*non Sw.*).—1½′–3′ high; leaves 5″–3″, perigone 4‴–6‴ long; raceme 1″–2″ diam.: sterile bracts 1″–1½″, fertile 1½‴–3‴ long.—HAB. Jamaica!, *Bancr., Wullschl., March;* Antigua!, *Wullschl.*, Dominica!, *Imr.*, S. Vincent!, *Guild.*, Grenada; [Cuba! to Guiana].

70. **E. elongatum,** *Jacq.* Stem leafy about the middle; *leaves oblong-lanceolate, bluntish or blunt; flowers rosy*, in a short, long-peduncled, simple, or few-branched raceme: *peduncle sheathed with long, tubular*, scarious *bracts;* perigonial divisions spathulate-lanceolate or lanceolate; *lip* 3-*lobed*, puberulous within, 2-tubercled at the base, the middle line crested: *lobes denticulate, middle* larger, 2-*fid;* column distinctly 3-dentate at the dilated summit.—*Jacq. Amer. Pict. t.* 207.—E. secundum, *L.*—2′–4′ high; leaves 4″–3″, raceme 1″–2″, perigone 6‴ long; bracts small.

α. Leaves tapering-bluntish.

β. crassifolium, Lindl. Leaves fleshy, rounded-blunt.—I see no difference in the lip, but its crest less developed.

HAB. Antigua!, *Nichols.* (*α*), Dominica!, *Imr.* (*α*), S. Vincent (*β*); Trinidad!, *Bradf.* (*β*), abundant near Pitch Lake, terrestrial; [French islands! to Venezuela].

71. **E. Schomburgkii,** *Lindl.* Stem leafy about the middle; *leaves lanceolate, bluntish; flowers crimson*, in a corymbose, long-peduncled raceme: *peduncle sheathed with long, tubular*, scarious *bracts;* perigonial divisions elliptical-lanceolate, acuminate; *lip deeply* 3-*lobed*, 2-callous at the base, the middle line keeled: *lobes dentate at the summit*, lateral ascending, middle longer, cuneate-oblong.—*Bot. Reg.* 1838. *t.* 53.—2′–3′ high; leaves 4″–3″, perigone 10‴–8‴ long; corymb 3″–4″ diam.: bracts lanceolate-linear, inferior 6‴ long.—HAB. Trinidad!, *Bradf.*, Maraval; [Guiana to Brazil and Peru].

72. **E. fulgens,** *Brongn.* (*non Focke*). Stem leafy above; *leaves lanceolate*, or oblong-linear, *bluntish; flowers purplish-rosy*, in a short, peduncled, simple, or branched raceme: *peduncle distantly sheathed with long*, scarious *bracts;* perigonial divisions elliptical or elliptical-oblong, somewhat bluntish; *lip cordate-roundish, fimbriate-dentate, nearly undivided*, or with a short terminal lobe, 2-callous at the base, the middle line keeled.—*Duperrey, Voy. t.* 60.—E. Schomburgkii, *var.* confluens, *Lindl.:* but rather a form of *E. cinnabarinum*, Salzm. (Bot. Reg. 1842. t. 25) with smaller flowers, and the terminal lobe of the lip suppressed.—1½′–2′ high; leaves 6″–3″, raceme 1″–2″, perigone 6‴ long; bracts lanceolate-linear, inferior 6‴–4‴ long.—HAB. Trinidad!, *Bradf.;* [*E. cinnabarinum:* Venezuela to Brazil].

73. **E. compressum,** *Gr.* (*n. sp.*). Stem few-leaved, compressed; *leaves lanceolate-oblong, pointed; flowers red, in a loose, racemiform panicle: peduncle distantly sheathed with* scarious, oblong, *pointed bracts;* perigonial divisions pointed, exterior lanceolate, or half-ovate-lanceolate, interior linear; *lip concave, shortly* 3-*fid: lateral lobes deltoid-ovate*, small, *middle* a little longer, recurved, *linear-sub-3-gonal;* column small.—Habit of *E. diffusum*, Sw.; 1½′–2′ high; leaves about 3, alternate, much exceeded by the peduncled panicle, 3″–4″ long, spreading from a keeled-complicated sheath; sterile bracts 6‴–10‴ long, superior decrescent; perigone, 3‴ long.—HAB. Trinidad!, *Bradf.*

** *Stem leafy to the inflorescence: sterile bracts none, or a few conform to the fertile ones.*

74. **E. patens,** *Sw. sec. Lindl.* (*R.*). Stems leafy above; *leaves oblong-lanceolate*, pointed; *flowers greenish-yellow, in a nodding raceme: bracts small, deltoid;* perigonial divisions spathulate-oblong; *lip equally* 3-*lobed*, 2-tubercled at the base: *lobes* blunt, *middle* 2-*lobed.*—*Bot. Mag. t.* 3800.—From the description of *E. patens*, Sw. ("flores paniculati; bracteæ lineari-lanceolatæ") neither his synonym is clear, nor does our species

occur in the Jamaica collections. 1′–3′ high; leaves 6″–4″, perigone 9‴ long.—HAB. Jamaica? (*Sw.*); Trinidad!, *Pd.*

75. **E. jamaicense,** *Lindl.!* Stem leafy above; *leaves oblong-lanceolate,* pointed; *flowers pale, in a simple raceme: bracts lanceolate-linear;* perigonial divisions pointed, exterior spathulate-lanceolate, interior spathulate-linear; *lip undivided, roundish,* or broader than long, undulate-subentire, mucronate, 2-callous at the base.—Allied to the preceding, but bracts 6‴–8‴ long; 1′ high; leaves 5″–3″, perigone 8‴ long.—HAB. Jamaica!, *Pd.*, on trees, Dunrobbin Castle.

76. **E. bifarium,** *Sw.* (*L.*). Stem short, leafy; *leaves lanceolate-linear,* rounded-auricled at the clasping base; *flowers "greenish-white," distantly* distichous *in an elongated, spiciform raceme: bracts keeled-compressed, deltoid, tubular below and decurrent* along the compressed rhachis; perigonial divisions exterior ovate-lanceolate, "interior shorter, setaceous: *lip 3-lobed:* lateral *lobes* roundish, entire, *middle 2-lobed.*"—Stem 2″–4″, raceme 6″–10″ long; leaves 2″–1″, perigone 2‴–3‴ long: flowers 3‴–6‴ distant.—HAB. Jamaica!, *Macf.*, *March*, on trees, in high mountains.

77. **E. rigidum,** *Jacq.* (*L. R.*). Stem leafy; *leaves oblong, blunt,* equal at the base; *flowers greenish, distantly distichous in a spike; bracts vaulted-ovate, keeled:* keel decurrent along the compressed rhachis; perigonial divisions exterior ovate, interior lanceolate-linear; *lip undivided,* cordate-ovate, blunt: disk callous; column dentate.—*Jacq. Amer. Pict. t.* 204. *Hook. Ic. t.* 314.—6″–10″ high; leaves 2″, perigone 2‴–3‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wullschl.*, on trees; S. Vincent!, *Guild.;* Trinidad!, *Cr.*, *Bradf.* [Cuba!, and Mexico to Brazil!].

78. **E. strobiliferum,** *G. Rchb.* Stem branched, leafy; *leaves lanceolate or ovate-lanceolate, emarginate; flowers* "white," *distichous in short, straight,* terminal or lateral *spikes: bracts vaulted-ovate,* bluntish, not decurrent, exceeding the ovary; perigonial divisions exterior ovate-oblong, or oblong-lanceolate, interior oblong-linear, or linear: *lip undivided,* cordate-ovate, pointed: *disk* concave, *devoid of prominent calli.*—8″–3″ high; leaves 12‴–8‴, perigone 1½‴ long.

α. Diffuse; perigonial divisions exterior lateral oblique at the base, interior oblong-linear.

β. Swartzii, G. Rchb. ms. Low; spikes few-flowered, usually lateral; perigonial divisions exterior oblong-lanceolate, interior linear.—E. ramosum, *var. Sw.*

HAB. Jamaica!, *March*, *Wullschl.* (*β*); Trinidad!, *Cr.*, *Bradf.;* [Guiana!].

79. **E. ramosum,** *Jacq.* (*L. R.*). Stem branched, leafy; *leaves linear or lanceolate, emarginate; flowers greenish-white, distantly distichous in short, flexuose,* terminal spikes: *bracts ovate-oblong, or oblong,* concave, blunt, not decurrent, exceeding the ovary; perigonial divisions exterior ovate-lanceolate, interior linear, or oblong-linear; *lip undivided,* cordate-ovate, pointed (or bluntish): *disk* concave, *with two approximate short calli* at the base.—*Jacq. Amer. Pict. t.* 202.—8″–1½′ high, spreading-branched, ascending; leaves 1½″–4″, perigone 3‴–4‴ long, the latter rigid.

α. Leaves linear; perigone 3‴ long: interior divisions linear.

β. lanceolatum. Leaves lanceolate; bracts larger, lower often sterile; perigone 4‴ long: interior divisions oblong-linear.

HAB. Jamaica!, all coll., on trees and rocks (*α, β*); Dominica!, *Imr.;* [Cuba! and Mexico! to Brazil].

80. **E. umbellatum,** *Sw.* (*L.*). Stem leafy; *leaves oblong,* or ovate-oblong, blunt, or rounded-emarginate; *flowers greenish, umbellate, or corymbose:* bracts ovate, pointed; perigonial divisions veiny, exterior oblong-lanceolate, or oblong, interior linear, or spathulate; *lip obsoletely 3-lobed, broader than long,* reniform-roundish, flabellate-veiny, 2-callous at the base: middle lobe emarginate; column cut-denticulate.—E. difforme, *Jacq. Amer. Pict. t.* 206: an unusual form with broad leaves, and whitish flowers.—6″–12″ high; leaves 1½″–3″ long: sheath compressed; perigone 6‴–8‴ long: lip variable.

α. Leaves oblong; perigone 6‴ long: exterior divisions oblong-lanceolate, interior linear; lip about twice as broad as long.

β. latilabre, Lindl.! Leaves ovate-oblong, or oval; perigone 8‴ long: exterior divisions oblong, interior spathulate, or spathulate-linear; lip 1″ broad or more, often four times as broad as long.

HAB. Jamaica!, *Pd.*, *Wullschl.*, on trees; Dominica!, *Imr.* (α, β), S. Vincent!, *Guild.*; Trinidad; [Cuba! to Brazil].

81. **E. nocturnum,** *L.* (*L.*). Stem leafy; *leaves oblong, or oval,* blunt: *flowers whitish, or greenish-yellow, geminate-solitary:* bracts ovate-lanceolate, much exceeded by the long pedicel; perigonial divisions large, linear-acuminate; *lip 3-fid:* lateral *lobes* ovate-oblong, as long as the denticulate column, *middle* longer, *setaceous-linear.—Jacq. Amer. Pict. t.* 210. *Catesb. Carol.* 2. *t.* 68.—1′–2′ high; leaves 5″–2″, perigone 2½″–1½″ long.—HAB. Bahamas (*Catesb.*); Jamaica!, *Macf.*, *March.*; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*, *Bradf.*; [Cuba! to Guiana! and Peru].

82. **E. diffusum,** *Sw.* (*L.*, *R.*). Stem leafy; *leaves ovate-oblong, or oblong,* rounded-bluntish; *flowers "greenish-white," in a loose panicle:* bracts minute; perigonial divisions exterior lanceolate, interior linear; *lip undivided,* cordate-ovate, pointed, 3-crested, callous at the base.—*Bot. Mag. t.* 3565.—8″–1½′ high: panicle nearly as broad; leaves 1½″–3″, perigone 4‴ long, red in drying.—HAB. Jamaica!, all coll., on trees; [Mexico! to Guiana!].

83. **E. verrucosum,** *Sw.* (*R.*). Stem leafy; *leaves oblong-lanceolate, or lanceolate: sheaths* subcylindrical, *warty: flowers greenish-yellow, in a large, spreading panicle:* bracts subulate, small: perigonial divisions exterior elliptical-lanceolate, interior spathulate-linear; *lip 3-fid:* lateral *lobes* oblong-linear, spreading, denticulate at the blunt summit, *middle 2-lobed:* disk 3-crested, middle crest narrower.—1½′–4′ high: leaves 6″–4″, perigone 4‴–3‴ long.—HAB. Jamaica!, all coll., on trees.

84. **E. vincentinum,** *Lindl.!* Stem low, leafy; *leaves lanceolate-linear, acuminate:* sheaths compressed; *flowers minute,* in a narrow, few-flowered panicle: bracts subulate, small, exceeded by the filiform pedicel; perigonial divisions exterior lanceolate, interior linear; *lip undivided,* cordate-roundish, undulate-crispate.—3″–4″ high; leaves 1″, perigone 1‴ long.—HAB. S. Vincent!, *Guild.*

§ 4. *Lip free, or nearly free from the column; stem equal at the base: leaves alternate; inflorescence terminal.*

85. **E. sthenopetalum,** *Hook.* (*R.*). Stem few-leaved above, sulcate; *leaves linear, or lanceolate-linear, emarginate-blunt; flowers rosy, in a few-flowered, subsessile corymb: bracts* scarious, small, ovate, pointed, *sterile few,* approximate, gradually larger; *perigonial divisions* pointed, exterior oblong-lanceolate, *interior broader,* elliptical-oblong; *lip undivided, obovate,* entire, transversely crested at the contracted, pale base; column dentate at the summit.—*Bot. Mag. t.* 3410: I have added the letter *h* to the specific name, on account of the broad petals.—Oncidium emarginatum, *Mey. Esseq.!*—½′–2′ high; leaves 3″–4″, perigone 6‴ long.—HAB. Jamaica (*Hook.*); Trinidad!, *Bradf.*, common on dying trees; [Honduras to Guiana!].

86. **E. teretifolium,** *Sw.* (*R.*). *Stem* leafy, simple, 1-*flowered; leaves linear, triquetrous-subcylindrical, fleshy,* blunt; flower yellowish-green: bracts 2, membranaceous, ovate-late; perigonial divisions "exterior lanceolate, pointed, interior elliptical, half as long; *lip* undivided, striate, *thickened–3-quetrous at the summit.*"—Cymbidium, *Sw.* Isochilus, *Lindl.*—1′–1½′ high; leaves 1½″–2″, bracts 4‴–6‴ long, the latter keeled.—HAB. Jamaica!, *March,* on trees, in high mountains; [Cuba].

87. **E. globosum,** *Jacq.* (*R.*). *Stem* leafy, simple, *few-flowered; leaves linear, channelled–subcylindrical,* bluntish; *flowers* yellowish, reddish-variegated, *in a sessile, contracted umbel:* bracts small, membranaceous, ovate, blunt; perigonial divisions ovate, interior smaller; "*lip* undivided, *ovate, pointed,* concave."—*Jacq. Amer. Pict. t.* 203.—Cymbidium, *Sw.* Isochilus, *Lindl.!*—2″–6″ high, cæspitose; leaves 8‴–10‴, bracts 1‴ long; flowers small.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wullschl.*, on trees; Dominica!, *Imr.*, S. Vincent; [Cuba! to French islands!].

10. BROUGHTONIA, *R. Br.*

Character of *Epidendrum*, but lip produced into an adnate-decurrent, linear spur.—Scape *terminal from an aerial tuber;* flowers *crimson, racemose.*

88. **B. sanguinea,** *R. Br.*—*Sl. t.* 121. *f.* 2.—Dendrobium, *Sw.* Epidendrum, *Sw.*—Tuber oval-oblong, 2-leaved; scape 8″–15″ high; leaves lanceolate-oblong, or oblong-linear, ¼–½ as long as the scape; raceme 5–12-flowered; perigone 8‴–10‴ long: exterior divisions lanceolate, or oblong, interior broadly-elliptical; lip undivided, obcordate-roundish, subsessile.—HAB. Jamaica !, all coll., on trees, in the low lands, Westmoreland; [Cuba !].

11. CATTLEYA, *Lindl.*

Character of *Epidendrum*, but lip free, sessile, convolute below around the column.—Scape *terminal from a 2–1-leaved aerial tuber;* leaves *leathery;* flowers *few–solitary supported by spathaceous bracts.*

89. **C. Skinneri,** *Batem.*, var. *parviflora*, Hook. Tubers subcompressed, lanceolate-oblong, often several-nodal, 2-leaved; leaves oval, or oval-oblong, blunt; spathe 2-leaved, supporting the 2–6(–8)-flowered scape; perigone rosy: divisions pointed, exterior oblong-lanceolate, interior oblong; lip undivided, elliptical-oblong, pointed, convolute at the base.—*Bot. Mag. t.* 4916.—C. Deckeri, *Kl.* Epidendrum Huegelianum, *var.*, *G. Rchb.*: *a* has larger flowers and a "blunt lip," and is possibly the ♂ of our form, in which all pollinaria "proved imperfect" (*Bradf.*).—Stem 6″–8″, leaves 4″–6″, perigone 1″ long.—HAB. Trinidad !, *Cr.*, *Bradf.*, common; [Guatemala, along the damp coast].

12. LÆLIA, *Lindl.*

Lip free, sessile, 3-lobed, channelled-convolute around the column below the division. *Pollinia* 8: caudiculæ 4.—Scape *terminal from an aërial tuber;* leaves *fleshy;* flowers *large, supported by spathaceous bracts.*

90. **L. superbiens,** *Lindl.* "Tuber elliptical-oblong, 2-1-leaved; leaves oblong;" flowers corymbose, rosy with a purple and yellow-variegated lip: *bracts* oblong-lanceolate, large, *exceeding the pedicel*, inferior sterile; perigonial divisions lanceolate-oblong, bluntish, flat; lateral *lobes of the lip* broadly oblong, *middle* about half as long, *broader than long*, emarginate-blunt, crested at the base: *crests* 5, *longitudinal*, broad, truncate, *dentate;* column dentate at the summit.—*Bot. Mag. t.* 4090: in our form the flowers are less numerous.—Bletia, *G. Rchb.*—Stout; bracts 2″–2½″, flowers 2½″ long.—HAB. Jamaica !, *Pd.*, *Wils.*; [Mexico to Costarica].

13. BRASSAVOLA, *R. Br.*

Lip free, clawed, nearly undivided: claw channelled, convolute around the column. *Pollinia* 8.—Leaf *solitary, narrow, fleshy;* inflorescence *terminal.*

* *Stem cylindrical, sheathed, 1-leaved towards the summit: no aërial tubers.*

91. **B. cucullata,** *R. Br.* (*R.*). Leaf subcylindrical, linear-acuminate; *flower solitary;* perigonial divisions long, lanceolate-linear, acuminate; *lip shortly clawed, cucullate-subulate, fimbriate* at the margin below its long, linear-acuminate, terminal appendage.—*Bot. Mag. t.* 543.—Epidendrum, *L.* Bletia, *G. Rchb.*—Cæspitose, about 1′ high; leaf 6″–10″ long, 2‴ diam.; perigone yellowish-white, 3″–2½″ long.—HAB. Dominica !, *Imr.*, S. Vincent !, *Guild.*; Trinidad !, *Bradf.*, abundant; [Mexico to Venezuela].

92. **B. cordata,** *Lindl.* (*R.*). *Leaf complicated-linear*, acuminate, recurved; *flowers corymbose;* perigonial divisions lanceolate-linear, acuminate, about as long as their distance from the axis; *lip subcordate-roundish*, cuspidate, entire, *scarcely as long as the claw.*—*Bot. Mag. t.* 3782.—Bletia, *G. Rchb.*—8″–12″ high; leaf 6″–8″ long: its sides 4‴ broad, perigone greenish with a white lip, 1½″ long.—HAB. Jamaica !, *M'Nab*, *Wullschl.*; [Brazil].

93. **B. Sloanei,** *Gr.* *Leaf* "*channelled-halfcylindrical, linear-acuminate*, straightish;" *flowers corymbose;* perigonial divisions lanceolate-linear, acuminate, shorter than their distance from the axis; *lip subcordate-roundish*, mucronate, entire, *longer than the claw.*—*Sl. t.* 221. *f.* 3. *Bot. Mag. t.* 3229.—B. nodosa, *Hook.* (*non Lindl. in Bot. Reg.*). B. subulifolia, *Lindl.*" ("leaves very narrow"): Cymbidium subulatum, *Sw.*, if erroneously described, may possibly belong to this; it is, however a quite doubtful Orchid, of which, in

Swartz's herbarium, G. Rchb. found only a single leaf.—Perigone smaller than in the preceding, 12‴–14‴ long.—Hab. Jamaica!, *Nevis* (B. subulifolia, *Lindl.*).

94. **B. nodosa,** *Lindl.* (*R.*). *Leaf "channelled, lanceolate-acuminate;" flowers few,* large, *corymbose;* perigonial divisions linear-acuminate, longer than their distance from the axis; *lip ovate-roundish,* long-cuspidate, entire, *somewhat longer than the claw,* the latter often serrulate.—*Jacq. Amer. Pict. t.* 213. *Bot. Reg.* 1840. *t.* 39.—Epidendrum, *Jacq., Sw., L.* (excl. syn. Sl.). Bletia, *G. Rchb.* B. venosa, *Lindl.!:* this I know not how to distinguish from B. nodosa, *Bot. Reg.*—Perigone much larger than in both preceding species, 2″–2½″ long.—Hab. Jamaica!, *Macf., Pd., March, Bancr.;* [Baru; Mexico to New Granada!].

** *Scape terminal from an aerial tuber.*

95. **B. vomeriformis,** *G. Rchb.* (*in lit.*) "*Leaf lanceolate-oblong,* bluntish, keeled-3-quetrous, *sessile upon a small aerial tuber, as long as the* 1-*flowered scape;* flowers" . . . —Epidendrum, *Sw.* Bletia, *G. Rchb.*—"Allied to *B. pumilio,* G. Rchb., which has exserted scapes; tubers scarcely 2‴ long, approximate-serial; leaf 5‴–6‴ long."—Hab. Jamaica (*Sw.*), on trees.

14. LÆLIOPSIS, *Lindl.*

Lip free, sessile, emarginate-subentire, convolute below, membranaceous. *Pollinia* 8.—Scape *terminal from an aerial tuber;* leaves *leathery;* flowers *corymbose, devoid of spathaceous bracts.*

96. **L. domingensis,** *Lindl.* Tubers 1(–2)-leaved; leaf oblong-linear, bluntish, crenulate, much shorter than the scape; perigone pale-blue. divisions exterior lanceolate, interior elliptical-oblong; lip little exserted, obovate, broadly emarginate, crispate-undulate: veins hairy within.—Cattleya, *Lindl.* Bletia, *G. Rchb.!*—1½′–2′ high; leaf 4″–6″, perigone about 1½″ long.—Hab. Jamaica!, *March,* on trees; [Cuba!; Haiti!].

15. SCHOMBURGKIA, *Lindl.*

Lip shortly adnate to the margin of the column at its base: lateral lobes or lower part convolute. *Pollinia* 8.—Scape *terminal from an aërial, fusiform tuber;* leaves *fleshy-leathery;* flowers *racemose, often crispate:* bracts *large, spathaceous.*

97. **S. carinata,** *Gr.* (*n. sp.*). Leaves oblong, blunt; flowers variegated: bracts as long as the pedicels and ovary, spreading, sterile, appressed-sheathing; *perigonial divisions oblong, blunt,* crispate, exceeding the lip; *lip undivided, ovate-oblong, pointed,* crispate at the margin, 5-*keeled within:* keels straightish, narrow, entire, subequal, tapering above; column 3-dentate at the summit, exceeded by the lip.—Habit of *S. gloriosa* (Bot. Mag. t. 3729); leaf 8″ long, 1½″ broad; raceme 1′, bracts 3″, perigone 1″ long, the latter densely spotted with purple (in drying).—Hab. Jamaica!, *Pd.,* S. Anns, on trees.

98. **S. undulata,** *Lindl.* Leaves lanceolate-oblong, rounded-blunt; flowers violet-purple with a crimson-rosy lip: bracts exceeded at length by the ovary; *perigonial divisions oblong-linear, bluntish,* crispate, exceeding the lip; *lip 3-lobed:* lateral *lobes* roundish, *middle* broadly clawed, *ovate, bluntish, longitudinally 7-crested:* crests undulate; column much shorter than the lip.—*Bot. Reg.* 1845. *t.* 53.—Bletia, *G. Rchb.*—4′ high; leaves 10″–12″ long, 2″ broad; bracts membranaceous, 1½″ long; perigone 1½″ long: divisions 3‴–4‴ broad.—Hab. Trinidad!, *Bradf.,* uncommon, on trees; [Venezuela; New Granada].

16. BLETIA, *R. P.*

Lip free, sessile, cucullate below its division, gibbous at the base, usually longitudinally crested within. *Pollinia* 8.—Tuber *depressed, terrestrial, terminated by a tuft of plaited, chartaceous, acuminate leaves;* scape *lateral;* flowers *racemose.*

99. **B. florida,** *R. Br.* (*R.*). Leaves linear or linear-lanceolate (12‴–4‴ broad); flowers rosy (or white) with a white middle lobe of the lip; *perigonial divisions exterior ovate-lanceolate,* with a bluntish point, *interior ovate,* bluntish; *lip 5-crested:* middle lobe cuneate-roundish, crispate.—*Bot. Reg. t.* 1401.—Scape 1′–2′ high, simple; perigone 10‴–8‴ long.—Hab. Jamaica!, *Wullschl.,* on rocky soil; Trinidad!; [Venezuela].

100. **B. purpurea,** *DC.* Leaves linear or linear-lanceolate (12‴–4‴ broad); flowers purplish-rosy with a crimson-purple middle lobe of the lip; *perigonial divisions subacute, exterior ovate-lanceolate, interior ovate; lip 7(–9)-crested:* middle lobe cuneate-roundish, crispate.—*Red. Lil.* ii. *t.* 83: flower bad.—Scape few-branched or simple: proportions of the preceding.—HAB. Bahamas!, *Swains.*

101. **B. verecunda,** *R. Br.* *Leaves linear-lanceolate* (10‴–12‴ broad); flowers purple; *perigonial divisions exterior ovate, pointed, interior oblong, blunt; lip 5-crested:* middle lobe broader than long, undulate.—*Jacq. Ic. Rar. t.* 602.—Limodorum altum, *Jacq.* —Scape 2′–3′ high, few-branched; perigone 10‴–8‴ long.—HAB. Jamaica (*Sw.*); [Cuba to Caribbean islands].

102. **B. Shepherdii,** *Hook.* *Leaves lanceolate-oblong* (2″–2½″ broad); flowers purple; *perigonial divisions exterior ovate, pointed, interior oblong, bluntish; lip 5-crested:* middle lobe broader than long, crispate.—*Bot. Mag. t.* 3319.—B. patula, *Lindl. Pl. Wright.*—Scape 3′ high, simple or few-branched; perigone 1″–1½″ long.—HAB. Jamaica!, *Dist.*; [Cuba].

17. TETRAMICRA, *Lindl.*

Lip free, sessile, expanded, 3-lobed. *Pollinia* 8.—Stem *terrestrial: no tubers; leaves narrow, rigid;* flowers *racemose.*

103. **T. rigida,** *Lindl.* (*R.*). *Scape distantly sheathed,* few-branched above or simple; *leaves* few, *half-cylindrical-linear,* channelled, acuminate, recurved; *lip* exserted, *3-partite:* lateral segments spreading, ovate, middle large, obovate-roundish, 5-striate.—*Hamilt. Prodr. Icon. Bot. Mag. t.* 3098.—Bletia, *G. Rchb.* Cyrtopodium elegans, *Ham.* (Brassavola, *Hook.*).—1′–2′ high, rigid; leaves 4″–8″ long, 1½‴ broad; perigone 6‴ long, greenish with a rosy, purple-striate lip.—HAB. Antigua!, *Nichols.*, *Wullschl.*, on rocks; Trinidad!, *Bradf.*; [Haiti!; Désirade].

104. **T. parviflora,** *Lindl.!* *Scape distantly sheathed,* simple, slender; *leaves* few, *short,* complicated, *oblong-linear,* pointed, much recurved, fleshy; *lip* shortly exserted, *deeply 3-fid,* callous at the base: lateral lobes half-ovate-oblong, middle larger, ovate, bluntish.—Bletia, *G. Rchb.*—6″–8″ high; leaves 6‴–10‴ long, 2‴ broad; perigone 3‴ long.—HAB. Jamaica!, *Macf.*

105. **T. montana,** *Gr.* *Stem leafy above,* distantly sheathed below, simple; *leaves linear-lanceolate, acuminate, plaited-striate,* flattish, sheathing at the base; raceme few-flowered; *lip* ovate-oblong, *slightly 3-lobed above,* crenulate: middle lobe shorter, ovate, blunt.—*Bot. Mag. t.* 2823.—Cymbidium, *Sw.* Bletia, *G. Rchb.* Octomeria serratifolia, *Hook.!*—1′ high; leaves 2″–3″ long, 3‴–5‴ broad; perigone 5‴–6‴ long, white, yellowish-variegated.—HAB. Jamaica!, *Macf.*, *Wils.*; [Haiti!].

18. PHAJUS, *Lour.*

Lip shortly adnate to the base of the column, spurred, 3-lobed, or subentire. *Pollinia* 8.—Stem *terrestrial;* leaves *broad, plaited-chartaceous;* flowers *large.*

106. **P. grandifolius,** *Lour.* (*R.*). Scape distantly sheathed below; leaves elliptical-oblong, pointed; flowers in a loose raceme, white (*Wullschl.*); perigonial divisions oblong-lanceolate, pointed; lip obovate, obsoletely 3-lobed above, undulate: middle lobe retuse: spur short.—*Bot. Mag. t.* 1924.—Bletia Tankervilliæ, *R. Br.*—1½′ high; perigone nearly 2″ long, spreading.—HAB. Jamaica!, *Wullschl.*, *Al.*, rare: Bethany; [trop. Asia to Hongkong; trop. America].

19. EVELYNA, *Pœpp.*, *Endl.*

Lip free, sessile, convolute below, saccate at the base. *Pollinia* 8, at length powdery: caudiculæ very short.—Stem *leafy: no aerial tubers;* leaves *plaited-chartaceous; flowers supported by large bracts, in terminal heads or spikes.*

107. **E. capitata,** *Pœpp.*, *Endl.* (*R.*). Stem leafy to the summit; leaves oblong-lanceolate, acuminate, uppermost lanceolate; *terminal head depressed-hemispherical: bracts imbricate, foliaceous,* ovate-lanceolate, acuminate, about as long as the "purple" flowers;

"lip obovate, emarginate."—*Pœpp. Endl. N. Gen. t.* 56.—Bletia, *R. Br.* Elleanthus, *G. Rchb.*—1′–3′ high, rigid; leaves 6″–8″ long, 1″ broad; head 2″ diam.—HAB. Jamaica!, *Macf., March, Don;* Trinidad!, *Cr.*, on trees; [Venezuela to Brazil! and Peru!].

108. **E. longibracteata,** *Lindl.! (in Herb. Hook.).* Stem leafy to the summit; leaves oblong-lanceolate or ovate-lanceolate, narrowly acuminate, few uppermost smaller, lanceolate; *terminal spike oblong: bracts striate-scarious*, ovate-subulate, spreading, exceeding the flowers; *lip shortly 3-lobed:* middle lobe deltoid, bluntish, recurved.—Allied to *E. furfuracea*, Lindl.—1′–2′ high; leaves 3″–8″ long, ½″–1½″ broad; bracts 10‴–6‴ long, pale-brown; perigone 4‴–3‴ long: divisions oblong: lip as long, convolute below the division, oblong, with 2 ovate-lanceolate calli at the base and 2 small, transverse crests at the origin of the lobes: lateral lobes roundish, all repand.—HAB. Jamaica!, *Macf., March:* Dominica!, *Imr.* (broader-leaved, in fruit); [New Granada!; Ecuador!; Bolivia!].

20. ISOCHILUS, *R. Br., G. Rchb.*

Lip spathulate-linear, free: claw incurved. *Pollinia* 6: 4 larger, 2 smaller sessile.—Stem *leafy above: no aërial tubers;* leaves *striate, flat;* flowers *in a terminal, one-sided spike.*

109. **I. linearis,** *R. Br. (L., R.). Leaves linear, emarginate-blunt;* flowers purple: bracts ovate-lanceolate, bluntish.—*Jacq. Amer. Pict. t.* 201.—Slender, 1′–1½′ high; leaves distichous, 1½″, perigone 3‴–4‴ long.—HAB. Jamaica!, all coll., on rocks and trees, common; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sch.;* [Cuba! and Mexico! to South Brazil!].

21. HEXADESMIA, *Brongn.*

Lip spathulate or obovate, free from the column: claw produced at the incurved base, cohering with the base of the perigone. *Pollinia* 6, subequal: caudiculæ of the 2 anterior ones very short.—Stem 1*-few-leaved:* aërial tuber *narrow, fusiform;* flowers *fascicled or racemose.*

110. **H. fusiformis,** *Gr.* Stem ascending: internodes single or few, each fusiform, with a single, suberect leaf at its summit; leaves linear, emarginate-blunt, striate; peduncle terminal, short, enclosed by a membranaceous, oblong bract: flowers few, fascicled; perigonial divisions oblong-lanceolate, pointed, interior broader; lip undivided, spathulate, repand-subtruncate at the summit.—Isochilus, *Lindl., e Trinidad, sec. Bradf.* ("*excl. pl. cult. ap. Lindl., sive* Epidendr. fusiformi, *G. Rchb.*" *sec. G. Rchb. in lit.*).—6″–8″ high (the leaf included); internodes 1½″–2″, leaves 4″–5″ long, the latter 2‴–3‴ broad; bracts 6‴–8‴, perigone 3‴ long, its divisions erect, equalling the lip.—HAB. Trinidad!, *Cr., Bradf.;* Maracas, Maraval.

22. PONERA, *Lindl.*

Lip spathulate or oblong, free from the column: claw cohering with the produced base of the perigone. *Pollinia* 4: caudiculæ 2.—Stem *narrow-leaved;* flowers *axillary, fascicled, or glomerate.*

111. **P. prolifera,** *G. Rchb.* Stems flexuose, devoid of aërial tubers, or slightly fusiform at the base; leaves linear, bluntish, obliquely emarginate, spreading, 2 uppermost approximate; flowers glomerate at the leaved or aphyllous nodes; "perigonial divisions lanceolate, blunt; lip obcordate."—*Bot. Reg. t.* 825.—Cymbidium, *Sw.* Isochilus, *R. Br.*—Stem 6″–12″, leaves 1½″–1″ long, the latter 2‴ broad; flowers small, "purple or white."—HAB. Jamaica (*Sw.*), on trees, in the mountains; [Guiana!].

23. HEXISEA, *Lindl.*

Lip adnate to the base of the column and "of the perigone." *Pollinia* 4, "devoid of caudiculæ."—Stem *rigid, ascending, narrow-leaved;* flowers *in few-flowered, contracted, terminal, or axillary racemes.*

112. **H. reflexa,** *G. Rchb.!* Stems hanging-proliferous, cylindrical, 1-leaved at their divisions; leaves rigid, thickish, narrowly linear-acuminate, channelled, much longer than

the internodes; flowers in short, subsessile, contracted racemes at the axils, whitish: pedicels concealed by membranaceous bractlets; perigonial divisions pointed, exterior oblong-linear, interior linear; lip recurved, obovate, emarginate, 3-callous; column 3-dentate at the summit.—Stems at length 8′–10′ long (*Bradf.*), hanging from the branches of high trees; leaves 6‴–10‴ long, scarcely 1‴ broad; racemes 8‴–10‴ long, subcylindrical (or reduced to a single flower); perigone 2‴ long.—HAB. Trinidad!, *Cr.*, *Bradf.*, very common; [Guiana!, *Kegel*, 1422].

TRIBE III. *VANDEÆ.—Pollinaria waxy, attached to a separable stigmatic gland. Anther of* Malaxideæ.—Vegetation usually aerial.

24. NANODES, *Lindl.*

"*Lip* adnate to the column, and cohering with the exterior lateral perigonial divisions. *Pollinaria* 4, sessile on the gland."—Stem *low, leafy: no tubers;* leaves *fleshy-coriaceous, distichous;* flowers *sessile, terminal.*

113. **N. discolor,** *Lindl.—Bot. Reg. t.* 1541.—The Trinidad species, though agreeing with the figure, must still be verified, our specimens being in fruit.—Cæspitose, creeping, 1″–3″ long; leaves ovate-oblong, emarginate-blunt, sheathing, spreading, about 8‴ long, densely approximate; flowers small, "violet," solitary (or geminate).—HAB. Trinidad!, *Cr.*, Las Cuevas; [Brazil].

25. LOCKHARTIA, *Hook.*

Lip free, 3-lobed: perigonial divisions free. *Column* 2-auricled at the summit: pollinaria 2, clavate, sessile on the gland.—Stem *leafy: no tubers;* leaves *equitant-distichous, imbricate;* inflorescence *axillary.*

114. **L. acuta,** *G. Rchb.* Leaves ovate-lanceolate, acuminate, flat-compressed; *cymes dichotomous,* spreading, exserted, confined to one or few of the uppermost axils: bracts cordate-deltoid; lateral *lobes of the lip* deltoid-dentiform, *middle emarginate.—Bot. Reg. t.* 1806.—Fernandezia, *Lindl.*—Stem 1′–1½′ long, pendulous; leaves 8‴–10‴, perigone 2‴ long, the latter yellowish-white.—HAB. Trinidad!, *Bradf.;* [Venezuela].

115. **L. elegans,** *Hook.* Leaves ovate-lanceolate, bluntish, flat-compressed; *peduncles 2–1-flowered,* exserted: bracts cordate-deltoid; *lobes of the lip* lateral short, *middle oblong, blunt:* "tubercles of its disk numerous."—*Bot. Mag. t.* 2715.—Fernandezia, *Lindl.*—½′–1½′ long; leaves ½″–1½″, perigone 2‴ long, the latter yellow with purple spots.—HAB. Trinidad!, *Cr.*, *Bradf.;* [Veraguas!; Venezuela!; Brazil].

26. DICHÆA, *Lindl.*

Lip free, undivided: perigonial divisions free, connivent. *Column* naked: "pollinaria 4: caudiculæ cuneate, gland minute."—Stem *leafy: no tubers;* leaves *equitant-distichous, spreading;* flowers *solitary, axillary.*

116. **D. echinocarpa,** *Lindl.* *Leaves* approximate, *oblong, cuspidate-acute;* "lip sagittate-oblong;" *capsule ovoid, pilose-muricate:* its pedicel much shorter than the leaf.—*Aubl. t.* 322.—Cymbidium, *Sw.* Limodorum pendulum, *Aubl.*—Pendulous or decumbent; leaves 8‴–10‴ long; flowers "pale-yellow, with a blue lip, 3‴ long.—HAB. Jamaica!, all coll., on trees and rocks among mosses; [Cuba! to South Brazil!].

117. **D. muricata,** *Lindl.* (*R.*). *Leaves* approximate, *oblong, mucronate-blunt* or rounded at the summit; *capsule half-obovate-oblong, pilose-muricate:* its pedicel about half as long as the leaf.—Cymbidium, *Sw.*—Suberect or scandent; leaves 6‴–8‴ long; flowers "larger than in the preceding" (*Sw.*).

α. Leaves mucronate-blunt; pedicels shorter than half the leaf.

β. latifolia, Lindl. Leaves rounded at the little mucronate point; pedicels little exceeded by the leaf.

HAB. Jamaica!, all coll. (*α, β*); Dominica!, *Imr.* (*β*), S. Vincent!, *Guild.* (*β*); [Cuba! to French islands!].

118. **D. trichocarpa,** *Lindl.* *Leaves oblong-linear, pointed,* recurved; "lip concave,

roundish;" *capsule ovoid-globose, muricate-pilose:* its pedicel little exceeded by the leaf.—Cymbidium, *Sw.* D. squarrosa, *Lindl. in Pl. Wright.*—Radicant, pendulous; leaves 4‴–6‴ long, $\frac{2}{3}$‴ broad; flowers $1\frac{1}{2}$‴ long.—Hab. Jamaica (*Sw.*); [Cuba!].

119. **D. graminea,** *Gr.* *Leaves linear-lanceolate*, pointed, spreading; lip sagittate-roundish; *capsule ovoid, glabrous*, smooth: its pedicel about half as long as the leaf.—*Sw. Adnot. t.* 1. *f.* 1.—D. graminoides, *Lindl.!* (Cymbidium, *Sw.*, Isochilus, *Hook.!*).—Diffuse, ascending, low, 4″–6″ high; leaves 6‴–12‴ long, 2‴ broad; flowers 2‴–3‴ long, "whitish."—Hab. Jamaica!, *Pd.*, on trees, Moorce's Gap; S. Vincent!, *Guild.;* Trinidad!, *Cr.*, *Bradf.*, common on mossy branches, in cool, damp woods; [Guiana!].

120. **D. glauca,** *Lindl.!* *Leaves linear-oblong, mucronate-blunt*, glaucous beneath; lip sagittate-reniform, broadly clawed, exceeded by the perigone; *capsule elliptical-oblong, glabrous*, smooth, 3-gonal, much exceeded by the leaves.—Stouter than all the preceding species, 1′–2′ high, erect, simple; leaves $1\frac{1}{2}$″–2″ long, 4‴–6‴ broad; flowers 6‴ long, whitish.—Hab. Jamaica!, *Macf.*, on trees, in the upper region of the Blue Mountains; [Cuba!; Mexico!].

27. AERANTHES, *Lindl.*

Lip jointed with the base of the column, spurred: perigonial divisions distinct. *Column* short: pollinaria 2: caudiculæ as many, distinct.—Leafy or aphyllous *epiphytes: no tubers; inflorescence axillary or on radical scapes.*

121. **A. micrantha,** *G. Rchb.!* *Stem leafy*, pendulous-radicant; *leaves* distichous, *oblong*, blunt, obliquely emarginate, *exceeding the axillary, sessile, many-flowered spikes:* flowers one-sided, white; perigonial divisions oblong-lanceolate, bluntish, spreading at the summit; *lip conform, except at the cucullate, subulate base*, channelled, *little longer than the curved*, thickish, *bluntly clavate spur.*—*Bot. Reg. t.* 1772.—Angræcum, *Lindl.*—G. Rchb. (*in lit.*) distinguishes the Jamaica form (*A. jamaicensis*, ej.) by the leaves, thicker and devoid of transverse veinlets, and other characters, which from our materials do not prove constant. Stem a few inches to several feet long; leaves at length leathery, $1\frac{1}{2}$″–3″ long, sheathing, about 8‴ distant from each other; spikes single or fascicled, 1″ long, recurved; perigone 2‴ long.—Hab. Jamaica!, *Pd.*, *M'Nab*, on trees; Trinidad!, *Bradf.*, very common, in dry, open places; [Venezuela!, Guiana!; Sierra Leone (*Lindl.*)].

122. **A. filiformis,** *Gr.* *Stemless, aphyllous; peduncles radical, fascicled, short;* spike loose, many(–few)-flowered: flowers small, "yellow;" perigonial divisions ovate-lanceolate, pointed; *lip conform, as long as or little longer than the broadly clavate*, thickish, at length *reflexed-ascending spur.*—*Sw. Adnot. t.* 1. *f.* 2.—Limodorum, *Sw.* Angræcum, *Lindl.*—Stem reduced to a scaly knob at the origin of the shortly peduncled spikes, the latter $1\frac{1}{2}$″–2″ long, their axis slender, somewhat puberulous. aerial roots fascicled, much longer than the bundle of spikes; flowers distichous, about 1‴ distant from each other: perigone 1‴ long or less.—Hab. Jamaica!, *M'Nab*, *Pd.*, *Wils.*, on calabash- and logwood-trees; Trinidad!, *Bradf.*, on calabash-trees, rare; [Haiti; New Granada!].

123. **A. funalis,** *G. Rchb.!* *Aphyllous:* aerial roots stout, fascicled; *scapes* distantly sheathed, *few-flowered: flowers large, pedicellate*, greenish-white; perigonial divisions oblong-lanceolate, spreading; *lip difform*, roundish above the contracted base, 2-*lobed*, with rounded, spreading lobes, *about half as long as the subulate-filiform, straight-descending spur.*—*Bot. Mag. t.* 4295.—Limodorum, *Sw.* Angræcum, *Lindl.* Œceoclades, *Lindl.*—Roots often several feet, scape 1″–4″, perigone 6‴ long; lip 8‴ broad, white—Hab. Jamaica!, *Pd.*, *Wils.*, *M'Nab*, on trees.

28. ORNITHIDIUM, *Salisb.*

Lip ascending, cucullate, continuous (rarely jointed) with the base of the column: perigonial divisions erect-spreading. *Column* naked, antrorsely gibbous: pollinaria 4, caudiculæ oblong or linear, gland minute.—Stem *ascending or radicant, branched, sheathed by imbricate-distichous scales, distantly leaved:* aerial tubers 1-*phyllous;* flowers *axillary.*

* ***Flowers glomerate.***

124. **O. vestitum,** *G. Rchb.!* Tubers oblong, truncate, compressed; *leaves oblong-*

linear, acuminate, *with a bluntish point;* flowers glomerate, "white;" perigonial divisions erect-spreading, ovate, blunt; *lip ovate, blunt, obsoletely 3-lobed: blade* abruptly clawed, *longer than the* continuous *claw:* basilar callus transverse, not produced to the margin.—Cymbidium, *Sw.* (*sec. G. Rchb.*, who compared Swartz's original). Camaridium imbricatum, *Lindl. in Herb. Hook.* O. parviflorum, *G. Rchb.!*—Stout, woody; scales appressed-sheathing, ovate, pointed, 4‴–6‴ long, gradually enlarged towards the tubers, the latter 1″–1½″ long; leaves 6″–8″ long, 10‴–12‴ broad; flowers in dense clusters near the summit of the branches; perigone 2‴–3‴ long, not exceeding the lanceolate-acuminate bract.—Hab. Jamaica!, *Pd.*, *Wullschl.*, on rocks above Radnor, on old trees, Manchester; [Venezuela!].

125. **O. confertum,** *Gr.* Tubers elliptical-oblong, compressed; *leaves linear-acuminate;* flowers glomerate, white- and purple-variegated; perigonial divisions erect-spreading, bluntish, exterior ovate, interior oblong; *lip deltoid, bluntish: blade contracted into the jointed claw, as long as it:* basilar callus transverse, excurrent to the margin.—Camaridium vestitum, *Lindl.!* (*Pl. Wright.*).—A few inches–1′ high; scales appressed, ovate, pointed, 4‴ long, except the large ones around the tubers; tubers 8‴–12‴ leaves 3″–5″ long, the latter chartaceous-flat, 3‴–5‴ broad; flowers in dense, distant clusters: perigone 2‴ long, little exserted from the bract.—Hab. Trinidad!, *Bradf.*, not uncommon; [Cuba!].

** *Flowers fascicled, long-pedicellate.*

126. **O. coccineum,** *Salisb.* (*R.*). Stem low, sheathed with distichous scales below: tubers oval or roundish, compressed; *leaves* approximate, *linear-lanceolate, blunt,* obliquely emarginate; flowers crimson, long-pedicellate, fascicled, nodding; perigonial divisions spreading, ovate-lanceolate, pointed; *lip undivided, ovate-oblong, bluntish,* contracted above the broadly obovate, concave, continuous base.—*Jacq. Amer. Pict. t.* 205.—Epidendrum, *Jacq.* Cymbidium, *Sw.*—Leaves 6″–12″ long, 8‴–10‴ broad; perigone 4‴ long.—Hab. Jamaica (*Sw.*); Dominica!, *Imr.*, S. Vincent!, *Guild.;* [French islands!].

29. MAXILLARIA, *R. P.*

Lip jointed with the produced, claw-like base of the column, cucullate: perigonial divisions exterior lateral adhering to the column at their oblique base. *Column* narrow, ascending: pollinaria 4, incumbent or two posterior adhering to the anterior ones: caudicula short: gland semilunar.—Stem *elongated or reduced, usually with aerial tubers.*

Sect. 1. Eumaxillaria, *Lindl.*—*Flowers single, axillary.*—Stem scaly and leafy; leaves chartaceous or leathery, not plaited.

127. **M. alba,** *Lindl.!* Stem compressed, leafy at the summit: *scales distichous-imbricate, pointed: tubers* oval-oblong, compressed, 1-*leaved; leaves oblong-linear,* complicate-keeled, bluntish, leathery-chartaceous; flowers white, exserted; perigonial divisions oblong-lanceolate, acuminate with a bluntish point, spreading-erect, striate; *lip obsoletely* 3-*lobed: middle lobe ovate,* bluntish: callus single, longitudinal.—Leaves 9″–18″ long, 8‴–10‴ broad; perigone 10‴–8‴ long.—Hab. Jamaica!, *March;* Trinidad!, *Bradf.*, uncommon on trees; [Cuba! to Guiana].

128. **M. crassifolia,** *G. Rchb.* (*L.*) *Stem* reduced, *few-scaly; tubers* few or wanting, 1-*leaved; leaves* rosulate, *oblong-linear,* bluntish, leathery, keeled, complicate towards the base only; flowers "yellow," exserted; perigonial divisions oblong-lanceolate, acuminate, with a bluntish point, erect, striate; *lip obsoletely* 3-*lobed: middle lobe ovate-oblong,* blunt: callus single.—*Bot. Reg. t.* 1028.—Heterotaxis, *Lindl.* Dicrypta Baueri, *Lindl.*—Longest leaves 1½′ long, 9‴–10‴ broad; perigone 6‴–8‴ long.—Hab. Jamaica!, *M'Nab;* [Cuba! to Venezuela].

129. **M.** (?) **inflexa,** *Gr.* "*Stem elongated,* somewhat branched: *tubers* 2-*leaved;* leaves unequal, leathery, *oblong,* channelled at the base; flowers single; perigonial divisions ovate, pointed; *lip* 3-*lobed:* lateral lobes falcate-inflexed, middle roundish, tubercled at the base."—Camaridium, *Lindl.* (*Ann. Nat. Hist.* 5. 116).—"Leaves about 2″ long."—Hab. Dominica (*Lindl.*).

Sect. 2. Xylobium, *Lindl.*—*Inflorescence radical.*—Stem reduced: leaves plaited.

130. **M. rufescens,** *Lindl.!* *Scape* 1-*flowered,* few-sheathed, as long as the 1-leaved,

oval-oblong tubers; *leaves lanceolate-oblong,* pointed, or with a bluntish point, *complicate towards the base,* chartaceous; *flower yellow, brownish-spotted* chiefly on the lip; perigonial divisions lanceolate-oblong, somewhat pointed, spreading; *lip 3-fid,* longitudinally callous from the base to the division: lateral lobes small, middle oblong, blunt, or retuse.—*Bot. Reg. t.* 1848.—Leaves 8″–12″ long, 15‴–20‴ broad; perigone 8‴–10‴ long.—HAB. Trinidad!, *Bradf.*, common; [Cuba!; Venezuela].

131. **M. palmifolia,** *Lindl.* Scape about as long as the oblong-lanceolate, 1-leaved tubers; *leaves oblong,* pointed, *tapering into a slender petiole,* membranaceous-chartaceous; *flowers in a short, peduncled raceme, white; perigonial divisions* exterior oblong-lanceolate, *acuminate,* spreading, lateral saccate at the base, interior shorter; lip obsoletely 3-lobed, longitudinally plaited-callous below: lateral lobes small, middle broadly oblong, blunt or retuse.—*Bot. Reg. t.* 1549.—Dendrobium, *Sw.* M. decolor, *Lindl.*—Scape 3″–5″, leaves 12″–15″ long, the latter 1½″–2″ broad; raceme 8–12-flowered: perigone 10‴ long.—HAB. Jamaica!, *Wullschl.*, on trees; Dominica!, *Imr.*; Trinidad!, *Bradf.*, not uncommon.

132. **M. pallidiflora,** *Hook.* (*L.*). Scape exceeding the lanceolate, 1-leaved tubers; *leaves oblong,* pointed, *tapering into a slender petiole,* membranaceous-chartaceous; *flowers in a short, peduncled raceme, greenish-yellow,* with a whitish lip; *perigonial divisions* lanceolate-linear, *blunt,* exterior spreading, lateral saccate at the base, interior nearly as long; lip ovate-oblong, blunt, "longitudinally plaited-callous below."—*Bot. Reg. t.* 2806.—Nearly allied to the preceding, but stouter, leaves 3″ broad.—HAB. S. Vincent!, *Guild.*; [Cuba!].

30. CAMARIDIUM, *Lindl.*

Character of *Maxillaria,* but pollinaria 4, collateral, and lip with 2 large, distinct calli.—Habit of *Eumaxillaria.*

133. **C. ochroleucum,** *Lindl.* (*R.*) Stem compressed, pendulous or short, leafy at the summit: scales distichous-imbricate, oblong: tubers oval-oblong, compressed, 1-leaved; leaves oblong-linear, blunt, obliquely emarginate, chartaceous, keeled; flowers whitish, exserted; perigonial divisions spathulate-oblong; lip 3-lobed; lateral lobes small, middle ovate or roundish: calli longitudinal, dissolved into bristles below.—*Bot. Reg. t.* 844.—Cymbidium, *Lindl.* Ornithidium album, *Hook.* (*Bot. Mag. t.* 3306): a form with larger flowers.—Habit of *Maxillaria alba,* often 1′ long; leaves 4″–8″ long, 3‴–6‴ broad; perigone variable in size, 6‴–12‴ long.—HAB. Trinidad!, *Cr.*, *Bradf.*, very common, on old trees; [Venezuela, Guiana].

31. LYCASTE, *Lindl.*

Character of *Maxillaria,* but caudicula long, linear, gland small, roundish.—Scape 1-*flowered, lateral to aerial tubers;* leaves *plaited;* flowers *large.*

134. **L. Barringtoniæ,** *Lindl.* Tubers elliptical-oblong, 2–3-leaved; scape about as long as the petioles; leaves oblong, pointed, tapering into a slender petiole; flowers nodding, greenish: uppermost bract exceeding the ovary; perigonial divisions ovate oblong, pointed, lateral cohering and forming a bluntly conical, spur-like auricle; lip smaller: middle lobe ovate-oblong, blunt, ciliate.—*Bot. Reg. t.* 1206.—Epidendrum, *Sw.* Maxillaria, *Lodd.* L. ciliata, *Lindl.!*: this from dry specimens I know not how to distinguish, but by larger flowers, but G. Rchb. informs me that the middle lobe of its lip is more concave.—Scape 6″, leaves 1½′–2′, perigone 1½″–2½″ long.—HAB. Jamaica!, *Pd.*, *Macf.*, *Wullschl.*, on rocks and trees; [Cuba!].

32. PAPHINIA, *Lindl.*

"Character of *Maxillaria,* but caudicula long, clavate-linear, gland small, deltoid; column 2-auricled at the summit; lip fringed at the summit and claw."—"Scape *few-flowered, hanging, lateral to aerial tubers;* leaves *plaited;* flowers *large, expanded.*"

135. **P. cristata,** *Lindl.* (*Bot. Reg. t.* 1811). "Tubers ovate, 1-leaved; leaves lanceolate-oblong or elliptical-oblong, pointed, tapering at the base, 4″–5″ long: scape as long, 2-flowered; perigone purple- and white-variegated: divisions ovate-oblong, pointed, 1½″ long: lip smaller, shortly clawed, deeply 3-fid, and middle lobe 3-fid again."—HAB. Trinidad (*Lindl.*); [Guiana].

33. BIFRENARIA, *Lindl.*

Character of *Maxillaria*, but caudiculæ 2, distinct, linear.—Scape *lateral to aerial tubers; flowers expanded.*

136. **B. aurantiaca,** *Lindl.* Tubers roundish, sub-4-gonal, 1–2-leaved; leaves plaited, elliptical-oblong, pointed, contracted into a short petiole, as long as or exceeded by the scape; flowers racemose, yellow, orange-spotted; perigonial divisions ovate or oblong, pointed; lip 3-partite above the claw: lateral lobes rounded, middle broader than long, rounded-subtruncate, 2-callous at the base.—*Bot. Reg. t.* 1875.—Scape 8″–12″, leaves 6″–8″, perigone 6‴ long.—Hab. Trinidad!, *Bradf.*, uncommon; [Guiana].

34. GOVENIA, *Lindl.*

Lip jointed with the produced base of the column, channelled below: perigonial divisions exterior lateral adhering to the column at their tapering base. *Column* winged: "pollinaria of *Maxillaria*, caudicula short, gland small, deltoid."—Scape *terrestrial, lateral to the leaves;* flowers *in a loose spike.*

137. **G. utriculata,** *Lindl.!* *Leaves plaited,* elliptical-oblong, pointed, geminate from a sheathed, fusiform tuber, exceeded by the scape; flowers subdistant, nodding, white: *bracts as long as the ovary; perigonial divisions lanceolate, bluntish, connivent-falcate; lip ovate-oblong, pointed,* recurved.—*Jacq. Fragm. t.* 32. *f.* 4. *Bot. Mag. t.* 4151.—Cymbidium, *Sw.* Limodorum, *Sw.*—Scape 1½′–2′, leaves 8″–12″ or more, perigone 6″ long.—Hab. Jamaica!, *Macf.*, *Pd.*, *Wullschl.*, in moist woods; [Cuba! to Venezuela].

138. **G. limbata,** *Gr.* *Leaves leathery,* oblong, bluntish, tapering at the complicated base; flowers distant: *bracts minute,* much shorter than the ovary; *perigonial divisions linear, blunt, spreading,* lateral exterior recurved-spreading; *lip 3-lobed,* cucullate below the divisions, fleshy-callous within; *middle lobe oblong, blunt,* somewhat recurved; column channelled-winged.—Cymbidium, *Hook.!*—The structure of the pollinaria is still unknown, the species having been described from a single, imperfect specimen. Leaf (a single is extant) 12″ long, 2½″ broad: spike as long; perigone 10‴ long.—Hab. Trinidad!, *Shepherd.*

35. POLYSTACHYA, *Hook.*

Lip jointed with the produced, claw-like base of the column, flattish, 3-lobed: perigonial divisions exterior lateral broadly adnate to the column. *Column* low, naked: "pollinaria 4, collateral: caudicula setaceous, gland minute."—Stem *leaved below or at the base;* flowers *small, in compound or simple terminal spikes.*

139. **P. luteola,** *Hook.!* Stem few-leaved above the narrowly tuberous base; *leaves oblong-linear or lanceolate-oblong,* bluntish, slightly recurved, *exceeded by the stem;* spikes usually compound, lateral short, subsessile: flowers greenish-yellow, glabrous; lip 3-lobed to the middle: lateral lobes bluntish, middle obovate-trapezoid, undulate: callus produced from the base to the division.—*Plum. Ed. Burm. t.* 185. *f.* 1.—Cranichis, *Sw.*: Swartz's species is doubtfully referred by G. Rchb. to his *P. extinctoria,* a Jamaica form unknown to myself.—6″–12″ high; leaves 4″–6″, perigone 2‴, ovary 4‴ long.—Hab. Jamaica!, *Wils.*, *Pd.*, *Wullschl.*, on trees and rocks; Dominica!, *Imr.;* [Cuba! to Guiana! and Peru!].

140. **P. foliosa,** *G. Rchb.* Stem few-leaved at the base; *leaves linear,* bluntish, recurved, *equalling or exceeding the scape;* spikes slender, lateral short, distant; lip shortly 3-lobed, callous at the base: middle lobe furfuraceous.—Stelis, *Hook.* P. Weigelti, *G. Rchb.!*—2″–5″ high: leaves 2‴(–4‴) broad; perigone 1‴, ovary 2‴ long.—Hab. Jamaica! *Wullschl.*, Trinidad!, *Pd.*, [Guiana!].

36. ZYGOPETALUM, *Hook.*

Lip continuous or slightly jointed with the shortly produced base of the column, dilated, concave below: perigonial divisions spreading, exterior lateral and 2 interior adhering to the column. *Column* naked or margined above: pollinaria 4, incumbent, the posterior often

adhering to the anterior ones: caudicula broad: gland deltoid-rhomboid.—Stem *short, devoid of tubers, terrestrial;* leaves *rosulate, plaited;* peduncles *single in the lower axils, exserted:* flowers *large.*

141. **Z. cochleare,** *Lindl.* *Leaves* oblong, pointed, tapering at the base, *exceeding the 1-flowered peduncles;* flower nodding, whitish, with a blue, variegated lip; perigonial divisions ovate, pointed; *lip cordate-subquadrate,* emarginate at the broadly rounded summit, *cristate at the base by a broadly reniform, longitudinally many-plaited callus;* column slender.—*Bot. Reg. t.* 1857.—Warszewiczella, *G. Rchb.* Cymbidium flabellifolium, *Sw.* (Zygopetalum, *G. Rchb.*).—Leaves 6″–10″, peduncles 3″, perigone about 1″ long.—Hab. Jamaica (*Sw.*); Trinidad !, *Bradf.;* [Venezuela to Brazil].

142. **Z. brachystalix,** *G. Rchb.* "Leaves lanceolate, acuminate, 3-nerved below; *flowers racemose:* raceme long, long-peduncled; perigonial divisions oblong, pointed; *lip* shortly clawed, *rhomboid-obtuse-angled,* minutely cordate at the base: callus basilar, *semilunar, plaited;* column very short."—Hab. Trinidad (*G. Rchb.*).

37. STENIA, *Lindl.*

Lip continuous with the produced, claw-like base of the column, dilated, ventricose: perigonial divisions spreading, exterior free, 2 interior adhering to the column. *Column* ascending, margined: pollinia 4, incumbent, the posterior much smaller: caudicula short, dilated: gland deltoid.—Stem *reduced, devoid of tubers, terrestrial;* leaves *rosulate, plaited;* peduncles *single in the axils of supraradical sheaths, short, 1-flowered.*

143. **S. pallida,** *Lindl.* (*Bot. Reg.* 24. *t.* 20). Leaves lanceolate-oblong, pointed, tapering into a short petiole, 3″–7″ long; peduncle 1½″ long, bracteate below the ovary; perigone "yellowish-white," 8‴ long: divisions ovate, pointed, exterior lateral oblique at the base: lip as long, sessile at the summit of the slender appendage of the column, hemispherical-ventricose, contracted into a short, deltoid epichilium.—Hab. Trinidad !, *Bradf.;* [Guiana].

38. CŒLIA, *Lindl.*

Lip continuous with the little-produced column, concave at the base, entire: perigonial divisions spreading, free. *Column* low, naked: "pollinaria 8." *Ovary* winged.—Scape *lateral to the several-leaved aerial tubers, in the axils of supraradical sheaths;* leaves *plaited;* flowers *racemose.*

144. **C. triptera,** *Don.* Leaves lanceolate-linear, much longer than the short scape; flowers whitish: bracts as long as the ovary; perigonial divisions bluntish, exterior ovate-oblong, interior lanceolate; lip ovate-oblong, bluntish, "callous at the margin."—*Bot. Reg.* 28. *t.* 36.—Cymbidium, *Sw.* C. Bauerana, *Lindl.!*—Scape 3″–4″, leaves 1′, perigone 3‴ long.—Hab. Jamaica (*Sw.*); [Cuba !].

39. TRIGONIDIUM, *Lindl.*

Lip "jointed with the shortly produced base of the column, channelled-3-lobed:" perigonial divisions 3 exterior connate at the base, 2 interior smaller, free. "*Column* naked: pollinaria 4, incumbent, sessile on a semilunar gland, 2 posterior smaller."—Scape or peduncle 1–2-*flowered, distantly sheathed;* leaves *leathery.*

145. **T. monophyllum,** *Gr.* (*n. sp.*). Leaf single, lanceolate-linear, obliquely emarginate at the bluntish summit, exceeded by the 2–1-flowered peduncle; perigonial divisions exterior obovate-oblong, mucronulate-bluntish, interior shorter, blunt, as long as the lip.—Of this plant there are two specimens in Herb. Hook., named "*Trigonidium*" in the handwriting of Dr. Lindley: the flowers are well preserved, but could not be analysed without destroying them. The species seems to approach *T. obtusum*, Lindl. (Bot. Reg. t. 1923), but the flowering stem is 1-leaved above its slender base, devoid of aerial tubers, the leaf is much narrower, 4″ long, 4‴–5‴ broad; exterior perigone spreading, divisions 9‴ long, united at the base.—Hab. Jamaica !, *Bancr.*

40. CYRTOPERA, *Lindl.*

Lip jointed with the produced base of the column, ventricose–3-lobed: perigonial divisions ascending, exterior lateral and 2 interior adhering to the column. *Column* ascending, margined: "pollinaria 4, incumbent, the posterior adhering to the anterior ones: caudicula short, nearly deltoid."—Root *terrestrial: no tubers;* scape *lateral to the stem;* leaves *plaited;* flowers *racemose.*

146. **C. Woodfordii,** *Lindl.* (*R.*). Stout; leaves lanceolate-oblong, or lanceolate, pointed, inserted at the summit of a fusiform stem; raceme many-flowered: bract linear-acuminate; perigonial divisions lanceolate, or oblong; lip 2-callous: lateral lobes short, middle flattish, ovate-oblong, rounded.—*Bot. Reg. t.* 1508.—Scape 2′–4′, leaves $1\frac{1}{2}$′–2′ long; flowers "white with a yellow spot on the lip" (*Cr.*), but green with a purple lip in the figure quoted: perigone 8‴–10‴ long.—Hab. Jamaica!, *Pd.*, *Dist.*, *Wullschl.;* Dominica!, *Imr.;* Trinidad!, *Cr.;* [French islands! to Guiana! and Brazil!].

41. CYRTOPODIUM, *R. Br.*

Lip clawed, continuous with the produced base of the column, incurved–3-lobed: perigonial divisions free, spreading. "*Pollinaria* 2, dorsally furrowed: caudicula short, linear, gland ovate."—Root *terrestrial;* scape *lateral to the leaved, fleshy stem, or tufts of plaited leaves;* flowers *panicled, or racemose.*

147. **C. Andersonii,** *R. Br. Scape panicled,* as high as the leaved, fusiform stem; "*leaves oblong-lanceolate,* acuminate;" flowers yellow: *bracts* oblong, *about as long as the pedicel;* perigonial divisions broadly elliptical, flattish, at length wavy; *lip callous above the claw; lobes rounded, middle* broader, but *shorter* than the lateral ones, crenulate at the summit; column naked.—*Bot. Reg.* 27. *t.* 8.—Oncidium comosum, *Pœpp. Cub.!*—2′–3′ high; perigonial divisions 10‴–8‴ long.—Hab. S. Vincent; Trinidad!, *Lockh.;* [Cuba! to Brazil!].

The allied *C. punctatum*, Lindl. (Cymbidium trinerve, *Mey. Esseq.!*), has greenish-white, spotted flowers, with an emarginate, larger middle lobe of the lip: it has been found in Haiti, but not yet in the British islands.

148. **C. cristatum,** *Lindl.* (*ex descr.*). *Scape simple,* racemose, exceeding the tuft of *leaves,* the latter *lanceolate-linear,* acuminate; *bracts minute,* cucullate-subulate, much shorter than the pedicel; perigonial divisions elliptical, bluntish, flattish; *lip transversely crested* at the origin of the rounded, entire, reflexed middle lobe, deeply concave between the broad crest and the claw: lateral lobes ovate, blunt, much narrower than the middle one; column broadly winged at the summit.—Scape $1\frac{1}{2}$′ high; leaves 8″–12″ long, 6‴–8‴ broad; perigone 6‴ long; crest fleshy, transversely oblong.—Hab. Trinidad!, *Cr.*, Aripo; [Guiana].

42. GONGORA, *R. P.*

Lip clawed, continuous with the produced, claw-like base of the column, constricted at the middle, furnished with lateral appendages: perigonial divisions spreading, 2 exterior lateral free, superior and 2 interior distantly inserted into the column. *Column* ascending, clavate, naked: "pollinaria 2, linear: caudicula linear, gland minute."—Scape *lateral to aerial tubers;* leaves *plaited;* flowers *racemose.*

149. **G. atropurpurea,** *Hook.!* Tuber costate, 2-leaved; leaves broadly lanceolate-oblong, exceeded by the scape; raceme loose: flowers brown; perigonial divisions oblong-lanceolate, acuminate; hypochilium cuneate, with long, marginal, recurved horns and smaller appendages: epichilium laterally compressed, subulate.—*Bot. Mag. t.* 3220.—Scape 2′, leaves 1′, flowers about 1″ long.—Hab. Trinidad!, *Shepherd;* [Guiana].

43. STANHOPEA, *Hook.*

"*Lip* sessile, continuous with the column, fleshy, usually jointed at the middle and furnished with lateral appendages: perigonial divisions spreading, free. *Column* winged above: pollinaria 2, linear: caudicula cuneate (or none): gland minute.—Scape *lateral to aerial tubers, few-flowered;* leaves *plaited;* flowers *large.*"

150. **S. grandiflora,** *Lindl.* "Scape short, erect; lip oblong, as long as the perigone: hypochilium roundish, with 2 horns: epichilium ovate, pointed, half as long as the solid, flat-convex, obsoletely 3-dentate middle part."—"Flowers 6″ diam., when expanded, white, and crimson on the lower part of the lip."—HAB. Trinidad (*Lindl.*).

44. CATASETUM, *Rich.*

Lip free, sessile, fleshy: perigonial divisions usually connivent, free. *Column* 2-cirrhous (except in ♀ flowers): "pollinaria 2: caudicula large: gland thickish."—Scape *radical;* leaves *plaited;* flowers *large, racemose, polygamous.*

151. **C. tridentatum,** *Hook.!* Leaves "oblong-lanceolate, acuminate;" perigone "greenish- and purple-variegated, compressed, connivent": divisions ovate, or ovate-oblong, pointed; *lip saccate-cucullate, 3-dentate* at the summit.—*Bot. Mag. t.* 3329: ♂. *Bot. Reg. t.* 1752: ♀ (*Monachanthus viridis,* Lindl.).—Flowers $1\frac{1}{2}''$ long.—HAB. Trinidad, according to cultivated specimens introduced from that island; [Guiana, Brazil].

152. **C. trifidum,** *Hook.!* Leaves oblong-lanceolate, shortly acuminate; raceme cernuous; perigone "greenish, purple-dotted," converging from a spreading base: divisions lanceolate, pointed; *lip flat, 3-fid,* exceeded by the perigone.—*Bot. Mag. t.* 3262.—Myanthus cernuus, *Lindl.* (*Catasetum,* G. Rchb.).—Flowers $1\frac{1}{2}''$ long.—HAB. Trinidad, according to cultivated specimens introduced from that island; [Brazil].

45. ONCIDIUM, *Sw.*

Lip continuous with and spreading from the tumid base of the column, usually exserted-flattish, lobed: perigonial divisions spreading, free, or the exterior lateral cohering. *Column* low, winged at the summit: pollinaria 2, dorsally furrowed.—Scapes *lateral, or terminal, or scape-like peduncles axillary;* leaves *leathery, rosulate;* flowers *panicled, or racemose;* lip *membranaceous in the West Indian species.*

* *Leaves equitant; root fibrous.*

153. **O. iridifolium,** *Kth.* (*R.*). *Leaves short,* equitant, *oblong-lanceolate,* pointed, *about as long as the 1–few-flowered scapes;* perigonial divisions free, subequal; *lip "lamellate-crested* at the base:" lateral segments small, roundish, contracted at the base, middle much larger, 4-lobed, roundish; "wings of the column dentate."—*Sw. Adnot. t.* 1. *f.* 3.—Cymbidium pusillum, *Sw.*—1″–3″ high; leaves 4‴ broad; flowers "yellow:" lip 6‴ long. —HAB. Trinidad!, *Cr.;* [Mexico to Brazil].

154. **O. triquetrum,** *R. Br.* *Leaves* channelled-equitant, *oblong-linear,* curved, pointed, *about as long as the simple,* 5–12-*flowered scapes;* perigonial divisions pointed, interior ovate, exterior superior ovate-lanceolate, lateral cohering; *lip not crested, obsoletely 3-lobed:* lateral lobes roundish, middle twice as large, ovate, bluntish; wings of the column entire.—*Bot. Mag. t.* 3393.—Cymbidium, *Sw.*—4″–6″ high; leaves 4‴–3‴(–1‴) broad; flowers "white and densely purple-spotted:" lip 5‴ long.—HAB. Jamaica!, *Macf., Wullschl., March.*

155. **O. pulchellum,** *Hook.* "*Leaves* channelled-equitant, *linear-oblong,* pointed, slightly curved, much *exceeded by the divided, many-flowered scape;* perigonial divisions pointed, exterior lateral cohering to near the summit: lip lamellate-crested at the base: *lateral lobes* roundish, *half as large as the roundish,* 2-lobed, sessile, *middle lobe;* wings of the column obliquely ovate-lanceolate, denticulate."—*Bot. Reg. t.* 1787.—"$1'$–$1\frac{1}{2}'$ high; leaves 6‴ broad; flowers white with a rosy tinge, yellow crest, and red column-wings: lip about 8‴ long."—HAB. Jamaica (*Lindl.*); [Guiana].

156. **O. tetrapetalum,** *W.* (*L.*). *Leaves* channelled-equitant, *oblong-linear,* acuminate, slightly-curved, *entire, much exceeded by the* simple, or divided, *many-flowered scape;* perigonial divisions interior obovate, repand, exterior spathulate, lateral cohering to near the summit; lip lamellate-crested at the base: *lateral lobes small,* oblong, blunt, somewhat distant from the middle one, recurved; *middle lobe large, reniform–2-lobed,* crenate-repand; wings of the column half-ovate, blunt, subentire.—*Jacq. Amer. Pict. t.* 216.—Epidendrum, *Jacq.* O. Lemonianum, *Lindl.* (*Bot. Reg. t.* 1789): a few- and yellow-flowered form, according to Antigua specimens, determined by G. Rchb., in which the lateral sepals are

cohering (while Lindley describes them as distinct in his own form).—1′–2′ high; leaves 3‴ broad; flowers "very variable in colour, red, yellow, or pale" (*Jacq.*): lip 6‴–8‴ long, 9‴–10‴ broad.—HAB. Jamaica!, *Macf.*; Antigua!, *Wullschl.*, *Bradf.*, Dominica!, *Imr.*; [Mexico, Venezuela!, New Granada!].

157. **O. variegatum,** *Sw.* (*L.*). *Leaves* channelled-equitant, *falcate-oblong*, pointed, crenulate, *much exceeded by the* simple, or divided, *many-flowered scape;* perigonial divisions interior obovate, exterior spathulate, lateral cohering to or near to the summit; lip lamellate-crested at the base: *lateral lobes rounded, small or about one-third as large as the middle one, the latter reniform-2-lobed*; wings of the column half-ovate.—*Sl. t.* 148. *f.* 2.—Very variable in the form of the lip and the column-wings: hence I regard *O. velutinum*, Lindl. (R.), as a narrower-leaved form with puberulous flowers, my specimens showing on the same axis the lateral lobes of the lip approximate to the middle one or distant from it. 8″–1½′ high; leaves short, 5‴–4‴(–2‴) broad; flowers spotted-rosy and white-variegated: lip 6‴ long, 8‴–10‴ broad.—HAB. Jamaica!, *March*; [Cuba!, Haiti!, Swedish islands].

158. **O. sylvestre,** *Lindl.!* *Leaves* channelled-equitant, *falcate-linear*, pointed, entire, *much exceeded by the* simple, or divided, *many-few-flowered scape;* perigonial divisions interior obovate, exterior spathulate, lateral cohering to near the summit; lip lamellate-crested at the base: *lateral lobes roundish, much smaller than the middle one, the latter cordate-reniform*, repand, 2-*lobed;* wings of the column half-ovate, pointed.—Very near the preceding, but lateral lobes of the lip half as large. 8″–15″ high; leaves short, 1‴–2‴ broad; flowers rosy: lip 6‴ long, 8‴ broad.—HAB. Jamaica!, *Wullschl.*; [Cuba!].

** *Leaves terete, acuminate.*

159. **O. Cebolleta,** *Sw.* "*Leaves terete*, striate, acuminate, subsolitary, much exceeded by the divided, many-flowered scape; perigonial divisions all distinct, obovate-oblong; lip crested at the base: middle lobe reniform-2-lobed, distant from the small, lateral ones; wings of the column falcate."—*Jacq. Amer. Pict. t.* 217. *Bot. Reg. t.* 1994.—Epidendrum, *Jacq.*—The S. Lucia plant (Hb. Banks), quoted by Lindl., was afterwards distinguished by him from Jacquin's species as *O. ascendens*, Lindl., said to differ by smaller flowers and linear-incurved column-wings. "Leaves 4″–12″ long, 5‴–3‴ diam.; flowers yellow, usually spotted."—HAB. S. Lucia (*Lindl.*); [Mexico to Brazil].

*** *Leaves flat; perigonial divisions all distinct.*

160. **O. luridum,** *Lindl.!* Root fibrous; scape lateral, panicled; leaves thick, broadly lanceolate-oblong, with a bluntish point; *perigonial divisions* distinct, *clawed-obovate*, undulate; *lip crested with* 5 *or more tubercles: base with its obsolete, lateral lobes narrower than the transversely oblong, emarginate middle lobe; wings of the column fleshy*, rounded.—*Bot. Reg.* 25. *t.* 16.—Epidendrum guttatum, *L.*—3′–4′ high; leaves 1′ long, 4″ broad, or "narrower;" flowers usually dull-yellow, brown-spotted: lip 10‴ broad, middle lobe half as long.—HAB. Jamaica!, all coll.; Trinidad!, *Sch.*, *Bradf.*; [Cuba! to Venezuela!].

O. carthaginense, Sw. (Jacq. Amer. Pict. t. 214), distinguished by the base of the lip as broad as the clawed middle lobe, and by paler flowers, does not occur in our West Indian collections: the homonym of Sw.'s Flora is probably *O. luridum*, not yet separated at that time.

161. **O. ampliatum,** *Lindl.* Aerial tubers roundish, compressed; scape lateral, panicled; leaves leathery, lanceolate-oblong, blunt; *perigonial divisions* distinct, *clawed-obovate; lip crested with tubercles above the slender claw: lateral lobes minute, middle transversely-oblong*, 2-*lobed; wings of the column membranaceous*, 2 *lateral*, transversely oblong, denticulate, *one on the back of the anther.*—*Bot. Reg. t.* 1699.—1′–2′ high; leaves 6″ long, 1½″ broad; flowers yellow: lip 6‴–8‴ broad, middle lobe as long.—HAB. Trinidad!, *Bradf.*; [Costarica to Venezuela].

162. **O. altissimum,** *Sw.* Aerial tubers elliptical-oblong, compressed, 1-leaved; scape high, racemose, or with ascending, few-flowered branches; leaves oblong-lanceolate, or lanceolate, shortly acuminate; *perigonial divisions* distinct, *oblong-lanceolate, or lanceolate*, undulate; *lip as long, crested with tubercles at the contracted base: lateral lobes reduced*

to basilar auricles, middle transversely oblong, or reniform, emarginate; wings of the column short, rounded.—*Jacq. Amer. Pict. t.* 215.—Epidendrum, *Jacq.*—6′ high, or more; leaves 1′ long, 15‴–8‴ broad; flowers yellow- and brown-variegated, 6‴–10‴ long.—Hab. Jamaica (*Sw.*); S. Vincent!, *Guild.*; [French islands].

163. **O. Baueri,** *Lindl.* Aerial tubers "oblong;" scape panicled from near the base; leaves oblong-lanceolate, or lanceolate, pointed; *perigonial divisions* distinct, *elliptical-lanceolate,* undulate; *lip as long, crested with tubercles at the contracted base: lateral lobes reduced to basilar auricles, middle transversely-oblong, or reniform, emarginate; wings of the column* membranaceous, *transversely oblong, pointed at both ends.*—Very near the preceding: branches of the panicle divaricate, flowers of the same colour, 8‴ long.—Hab. Dominica!, *Imr.*; [Venezuela].

164. **O. citrinum,** *Lindl.!* Aerial tubers ovate-oblong, compressed; leaves lanceolate, with a bluntish point, nearly as long as the simple, lateral scape; *perigonial divisions* distinct, *oblong,* blunt, undulate; *lip as long, crested with tubercles at the contracted base: lateral lobes reduced to basilar auricles, middle reniform: wings of the* dilated *column minute.*—*Bot. Reg. t.* 1758.—1′ high; leaves 6‴ broad; flowers yellow, 6‴–8‴ long.—Hab. Trinidad, from cultivated specimens, introduced from that island.

165. **O. papilio,** *Lindl.* "Aerial tubers roundish, compressed, 1-leaved; scape few-flowered; leaves leathery, oblong, blunt;" *perigonial divisions* distinct; *exterior lateral oblong-lanceolate,* undulate, little exceeding the lip, *superior and* 2 *interior much longer, linear-filiform;* lip crested at the base with glands: lateral lobes rounded, distant from the much larger, roundish, emarginate, crispate middle lobe; wings of the column dilated, crenulate: anther glandular at the margin.—*Bot. Reg. t.* 910: smaller-flowered.—Flowers yellow- and brown-variegated: filiform divisions about 4″, exterior lateral 2″ long.—Hab. Trinidad (*Lindl.*); [Venezuela, Quito].

46. BRASSIA, *R. Br.*

Characters of *Oncidium,* but exterior lateral divisions of the perigone elongated, lip entire, 2-lamellate at the base, and column low, wingless.—Scape *lateral to aerial tubers, racemose;* leaves *rigid.*

166. **B. maculata,** *R. Br.* (*R.*). Leaves oblong, pointed, exceeded by the scape; bracts small; *perigonial divisions* linear, or oblong-linear, *about as long as the lip, exterior lateral twice as long, conform:* lip roundish beyond a broadly cuneate lower part, mucronate: basilar lamellæ pubescent, produced into a tooth at the summit.—*Bot. Mag. t.* 1691.—1′–2′ high; flowers yellowish, purple-spotted: lip 1″–1½″ long.—Hab. Jamaica!, *Pd.*, *Wullschl.*, on rocks; [Guatemala].

167. **B. caudata,** *Lindl.!* Leaves oblong, pointed, nearly as long as the scape; bracts small; *perigonial divisions exterior lateral linear-acuminate, superior conform, usually about half as long, interior shorter, lanceolate, about as long as the lip;* lip ovate-oblong, usually acuminate: basilar lamellæ pubescent, produced into a tooth at the summit.—*Bot. Reg. t.* 832.—Epidendrum, *L.*—1′ high; flowers greenish, or dull-yellow, spotted with purple: lip 8‴–12‴, exterior lateral divisions 4″–5″ long.—Hab. Jamaica!, *Macf.*, *Wullschl.*; [Cuba! to Guiana!].

47. ODONTOGLOSSUM, *Kth.*

Character of *Oncidium,* but column longer, not tumid at the base, often devoid of wings, parallel to the lower part of the entire or lobed lip.—Scape *lateral to aerial tubers.*

168. **O. jamaicense,** *Gr.* (*n. sp.*). Tubers few, oblong, compressed; leaves rigid, oblong-linear, bluntish, or emarginate, little exceeded by the scape, the latter simple, with an ovate, contracted panicle at the summit; bracts membranaceous, clasping-concave, ovate, as long as the ovary; perigonial divisions distinct, elliptical-oblong, subequal, exterior tapering into a short claw, interior subsessile, as long as the lip; lip sessile, ovate-oblong, pointed, callous to the middle, lined with 2 thickish lamellæ along the concave callosity, 3-tubercled at its summit; column narrowly margined, abruptly dilated at the summit, half as long as the lip.—Apparently allied to *O. ixioides,* Lindl. Leaves 1′–1½′ long, 8‴–10‴ broad; panicle 3″, bracts 8‴–10‴, flowers 6‴–8‴ long; lip embracing a little the column; anther-bed

repand-truncate; pollinaria obovate, solid: caudicula shorter, oblong, antrorsely channelled: gland as broad, ovate.—HAB. Jamaica!, *Wils.*

48. LEOCHILUS, *Knowl., Westc.*

Lip free, cucullate below, sessile, undivided: perigonial divisions spreading, free, or the exterior lateral cohering. *Column* low, 2-armed below the stigma with spreading branches: rostellum ovate: pollinaria 2: caudicula linear, gland ovoid.—Scape *lateral to aerial tubers; flowers in a short raceme.*

169. **L. cochlearis,** *Lindl.* (*R.*). Leaves short, oblong, pointed, usually exceeded by the filiform, erect, simple or divided scape: branches of the latter few-flowered; perigonial divisions ovate, blunt, exterior lateral cohering; lip obovate, blunt, crested at the base: crest semilunar.—*Sw. Adnot. t.* 2. *f.* 6.—Rodriguezia, *Lindl.* Epidendrum labiatum, *Sw.*—6″–1½″ high; leaves variable in size; flowers pale-yellow or "purple- and yellow-variegated" (*Sw.*): lip 3‴–4‴ long: the Trinidad form has larger flowers and the leaves as long as the scape.—HAB. Jamaica!, *M'Nab, Wullschl.*, on trees; Dominica!, *Imr.;* Trinidad!, *Cr., Bradf.;* [Haiti; Guadeloupe!].

49. RODRIGUEZIA, *R. P.*

Character of *Leochilus*, but lip clawed, its claw parallel to the column, the latter slender clavate, devoid of spreading appendages; perigonial divisions exterior lateral cohering.—Scape *lateral to aerial tubers;* flowers *racemose.*

170. **R. secunda,** *Kth.* Tubers elliptical-oblong, compressed; leaves oblong, bluntish or emarginate-bluntish, about as long as the scape; raceme many-flowered, one-sided; flowers rosy; perigonial divisions spathulate-oblong, as long as the lip, the latter contracted above the spathulate claw, its blade shorter, emarginate-roundish, callous at the base; column shortly 2-appendiculate at the rostellum.—*Bot. Reg. t.* 930.—8″–12″ high; leaves 10‴–6‴ broad; perigone 6‴ long.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Bradf.;* [Panama!; New Granada!; Guiana!; Brazil!].

50. ASPASIA, *Lindl.*

Lip adnate by its claw to the column, its blade spreading, flattish: perigonial divisions exterior superior, and 2 interior usually cohering and adhering to the base of the column. *Column* naked, margined: pollinaria 2, dorsally furrowed: base of the caudicula embracing the gland.—Scape *lateral to aerial tubers, simple.*

171. **A. variegata,** *Lindl.* Tubers "2-leaved;" leaves oblong-linear, shortly acuminate, about as long as the 1–3-flowered scape; perigonial divisions oblong-lanceolate, pointed, 2 interior cohering with the exterior superior, equalling the clavate column; lip with 2 pubescent tubercles at the base, 3-lobed: middle lobe much larger, roundish.—*Bot. Reg. t.* 1907.—Scape 4″–6″ high; flower variegated, spotted-greenish, with a violet-spotted, white lip, 8‴–10‴ long.—HAB. Trinidad!, from specimens introduced from that island; [Guiana! to Brazil].

51. NOTYLIA, *Lindl.*

Lip "free," or a little adhering by its claw to the column, its blade entire: perigonial divisions exterior lateral cohering. *Column* slender, naked: anther dorsal: "pollinaria 2, solid: caudicula clavate-linear: gland minute."—Scape *lateral to* 1-*leaved, aerial tubers;* flowers *racemose.*

172. **N. punctata,** *Lindl.* "Leaves oblong, flat; rhachis of the pendulous raceme flexuose: flowers whitish; perigonial divisions bluntish, exterior lateral cohering to about the middle; *lip* clawed, cordate-ovate, blunt, *callous at the base.*"—*Bot. Reg. t.* 759.—Pleurothallis, *Lindl.*—"Leaves about 3‴ long, 1¼″ broad: racemes as long or longer: flowers distant, 4‴ long."—HAB. Trinidad (*Lindl.*).

173. **N. incurva,** *Lindl.* "Leaves flat; flowers pale-yellow; perigonial divisions pointed, exterior lateral cohering to about the middle; *lip* clawed, cordate-ovate, keeled below the pointed summit, reflexed at the margin, *devoid of a callus* at the base."—"Flowers larger than in other species."—HAB. Trinidad (*Lindl.*).

52. MACRADENIA, *R. Br.*

"*Lip* free, cucullate, sessile, undivided, pointed: perigonial divisions free, spreading. *Column* naked: rostellum beaked: pollinaria 2, solid: caudicula clavate-linear: gland ovoid."—"Scape *lateral to aerial tubers, the latter* 1-*leaved;* flowers *racemose.*"

174. **M. lutescens,** *R. Br.* "Scape erect, about as long as the oblong, pointed leaves; perigonial divisions lanceolate, pointed, yellowish- and purple-variegated, exceeding the lip; lip white, purplish-spotted, obovate, with a recurved, linear, pointed, terminal appendage; column clavate: anther-bed lobulate."—*Bot. Reg. t.* 612.—"4″ high; perigonial divisions 6‴ long."—HAB. Trinidad (*R. Br.*).

53. CRYPTARRHENA, *R. Br.*

Lip "adnate at the base to the column," clawed: blade short: perigonial divisions free. *Column* naked, margined, cucullate at the summit: "pollinaria 4: caudiculæ linear, 2-horned, gland ovoid."—Root *fibrous;* scape *simple;* leaves *rosulate;* flowers *racemose, small, yellow-greenish.*

175. **C. lunata,** *R. Br.* "Leaves oblong-linear, pointed, exceeded by the curved, slender scape; perigonial divisions interior obovate, serrulate, exterior lateral ovate; claw of the *lip* linear: *blade quadrate, emarginate-truncate,* serrulate, *little shorter than the spreading horns.*—*Bot. Reg. t.* 153.—"Scape 6″ high; flowers scarcely 4‴ diam."—HAB. Jamaica (*R. Br.*).

176. **C. pallidiflora,** *G. Rchb.* Leaves lanceolate, bluntish, exceeded by the curved, slender scape; perigonial divisions spathulate-oblong; claw of the *lip* oblong: *blade 2-fid,* with subquadrate, serrulate lobes, *much shorter than the falcate-recurved, acuminate* horns. —8″–14″ high; perigone 1½‴, lip 2‴ long: its claw much longer than the blade.—HAB. Trinidad!, *Pd.;* [Mexico to Ecuador!].

54. ORNITHOCEPHALUS, *Hook.*

Lip free, clawed or constricted above the base, subentire: perigonial divisions spreading, free. *Column* curved, naked: rostellum long-beaked: pollinaria 4, in a cross, solid: caudicula linear, gland ovoid.—Root *fibrous;* scapes *or scape-like axillary peduncles simple:* leaves *equitant;* flowers *racemose, yellowish-green, small.*

177. **O. gladiatus,** *Hook.* (*sec. Bradf.*). Root densely pilose; leaves lanceolate-oblong, bluntish, slightly falcate, little exceeded by the glabrous, curved scapes; flowers in a short raceme: bracts glabrous, clasping-deltoid; perigonial divisions elliptical, interior obovate, half as long as the lip; *lip* very shortly clawed, *hastate-oblong, pointed,* with a semilunar callus between the basilar auricles.—O. Ibis, *G. Rchb.!:* I regard this as the original Trinidad species, well known to Dr. Bradford, though I did not find original specimens in Herb. Hook.; his figure (Hook. Exot. t. 127), according to a copy kindly communicated by G. Rchb., disagrees much by a long, reflexed, terminal appendage to the lip (perhaps from monstrosity).—Leaves 1″–1½″ long, 2‴–3‴ broad; lip 2‴ long.—HAB. Trinidad!, *Cr., Bradf.,* very abundant in all parts of the island, on trees.

178. **O. Cruegeri,** *G. Rchb.!* Root glabrous; leaves oblong-lanceolate, mucronate, little exceeded by the hispidulous scape; flowers in a short raceme: bracts deltoid or ovate, ciliate or hispidulous; perigonial divisions obovate or obovate-roundish, serrulate, half as long as the lip; *lip* very shortly clawed, *dilated-roundish and callous to the constricted middle: upper part obovate-roundish, emarginate, serrulate.*—Leaves 1″ long, 3‴–5‴ broad; lip 1½‴ long.—HAB. Trinidad!, *Cr., Bradf.*

55. TRIZEUXIS, *Lindl.*

Lip free or "nearly so," entire, concave, pointed: perigonial divisions connivent, exterior lateral cohering, superior and 2 interior cohering at the base. *Column* naked,

parallel to the lip, clavate: pollinaria 2, solid: caudicula oblong, gland ovoid.—Root *fibrous; scape panicled; leaves equitant; flowers small, densely racemose along the branches of the scape.*

179. **T. falcata,** *Lindl.* (*R.*). Scape slender, 6″–12″ high; leaves distichous-rosulate, oblong-linear, acuminate, slightly falcate, 3″–6″ long, 4‴ broad; branches of the panicle distant, 1″ long, or shorter, naked below: bracts small, subulate-linear; flowers approximate, about 1‴ long: perigonial divisions ovate.—Hab. Trinidad!, *Cr.*, *Bradf.*; [Venezuela!; New Granada!].

56. JONOPSIS, *Kth.*

Lip little adhering to the base of the column, clawed, its blade spreading: perigonial divisions exterior lateral cohering at the base, and produced into a sack below the lip. *Column* naked, low: rostellum beaked: pollinaria 2, dorsally furrowed; caudicula linear, gland ovoid.—Scape *panicled or racemose;* leaves *rigid;* flowers *white or purple.*

180. **J. testiculata,** *Lindl.* "Scape few-flowered, simple (or few-branched); leaves terete, acuminate; perigonial divisions exterior pointed, interior blunt: *sack didymous-ventricose; lip ovate, acuminate.*"—Dendrobium, *Sw.* Epidendrum satyrioides, *Sw.* (Jonopsis, *G. Rchb.*).—"Leaves 2″–3″ long, 3–4 times exceeded by the scape; flowers small, white; lip and interior perigone red-veined."—Hab. Jamaica (*Sw.*); [Haiti].

181. **J. pallidiflora,** *Lindl.* "Scape simple; leaves oblong-linear, flat; perigonial divisions blunt: *sack didymous-ventricose; lip 2-lobed,* more than twice as long as the perigone."—"Flowers white, with purple stripes."—Hab. Trinidad (*Hook.*).

182. **J. utricularioides,** *Lindl.!* Scape panicled above; perigonial divisions bluntish: *sack short, simple, blunt; lip 2-lobed* from a cuneate, 2-callous claw, half as long again or twice as long as the perigone: lobes subquadrate-roundish.—Dendrobium, *Sw.* J. Gardneri, *Pl. Wright.* 667.—1′–1½′ high; leaves 4″ long, 4‴–6‴ broad; flowers 5‴ long, white with red veins, or variegated.—Hab. Jamaica!, *Pd.*, *Wullschl.*, *March*, on trees; [Cuba! to Venezuela!].

57. COMPARETTIA, *Pœpp., Endl.*

Lip free, clawed, flat, its claw produced from the back into 2 filiform horns, concealed within the spur: perigonial divisions exterior lateral cohering at the base, and produced into a spur beneath the lip. *Column* winged above, low: pollinaria 2: "caudiculæ as many, distinct, gland ovoid."—Scape *lateral to minute, 1-leaved, aërial tubers;* flowers *racemose.*

183. **C. falcata,** *Pœpp., Endl.* (*L.*). Leaves oblong, blunt or mucronate, much exceeded by the slender, simple scape; flowers distant in the raceme, red; perigone half as long as the lip: *spur linear, falcate, ascending,* as long as the perigone; lip roundish, 2-lobed: its blade as long as the cuneate, 2-auricled claw.—*Pœpp., Endl. N. Gen.* 1. *t.* 73, —1′–2′ high; leaves 4″–6″ long, 1″–1½″ broad; lip 6‴–8‴ long.—Hab. Jamaica!, *Wullschl.*, on trees; [Cuba! to Peru].

Tribe IV. *ARETHUSEÆ.—Pollinaria powdery-granular. Anther terminal, jointed at the base. Stem terrestrial.*

58. CLEISTES, *Rich.*

Lip convolute below around the column, 2-callous at the base: perigone subequal, connivent, its divisions free. *Column* free, clavate: anther inflexed-terminal, its bed dentate.—Tubers *terrestrial;* leaves *distant, embracing the stem at the base;* flowers *large, axillary, or single.*

184. **C. lutea,** *Lindl.* Leaves oblong-lanceolate, acuminate; *flowers yellow:* perigonial divisions oblong-lanceolate, acuminate; *lip half as long,* "*3-lobed,* the middle lobe crispate, emarginate."—*Aubl. t.* 321.—Limodorum grandiflorum, *Aubl.*—Stem 2′–3′ high; flowers few, 3″ long.—Hab. Trinidad!, *Cr.*, Savannah de Omara; [Guiana].

185. **C. rosea,** *Lindl.* (*R.*). Leaves oblong-lanceolate, pointed; *flowers rosy:* perigo-

nial divisions oblong-lanceolate, pointed: *lip as long, undivided,* with an ovate-acuminate summit.—Stem 1½′–5′ high; flowers few, 2″–2½″ long.—HAB. Trinidad!, *Pd., Cr.*, in savannahs, O'Meara, Aripo; [Panama!; Venezuela!; New Granada!; Guiana].

59. POGONIA, *Juss.*

Lip free, parallel to the column, not callous, longitudinally crested: perigonial division free. *Column* slender: pollinaria 2, furrowed.—Root or tubers *terrestrial; stem with clasping leaves, or aphyllous;* flowers *racemose.*

186. **P. physurifolia,** *G. Rchb. Leaves* coetaneous, alternate, *broadly ovate, pointed,* abruptly contracted into the tubular sheath, *as long as the internodes;* raceme spiciform: bracts herbaceous, subcordate-ovate or roundish, exceeding the pedicel, inferior gradually larger; perigonial divisions lanceolate-linear; *lip oblong-lanceolate,* crested along the midrib.—P. macrophylla, *Lindl.!*—Tubers several, cylindrical; stem 8″–12″ high; leaves 3′,–1½″, flowers 6‴ long, the latter "greenish."—HAB. Jamaica!, *Pd.*, in woods; Dominica!, *Imr.;* [Cuba!; Venezuela!; Guiana].

187. **P. surinamensis,** *Lindl.* (*R.*). *Leaves* coetaneous, alternate, *ovate, pointed, shorter than the internodes;* corymb few–1-flowered: bracts inferior herbaceous, much shorter than the pedicel; perigonial divisions lanceolate; *lip obovate, 3-fid,* 3-crested at and along the midrib: *lateral lobes* ovate, *exceeding the short, deltoid,* crispate, *middle one.*—Tubers several, thickish-cylindrical; stem 4″–8″, leaves 10‴–4‴, flowers 5‴ long, the latter "rosy."—HAB. Trinidad!, *Pd., Cr.*, in the woods of Arima, and in savannahs; [Guiana].

188. **P. tenuis,** *G. Rchb.!* Leaves coetaneous, alternate, or floral opposite, *short, lanceolate-linear, acuminate, much shorter than the internodes;* raceme few–1-flowered: flowers distant, subsessile: bracts conform to the stem-leaves, about as long as the slender ovary; perigonial divisions exterior lanceolate-linear, 2 interior lanceolate; *lip cuneate-oblong, with 2 small lateral lobes above the middle, broadly rounded at the summit,* crispate at the margin above, 2-crested along the midrib.—Cleistes paludosa, *Benth.! in Pl. Sprucean.* 3624 (*non G. Rchb.*).—Tubers cylindrical or oblong; stem slender, 6″–12″ high; leaves 6‴–14‴ long, 1‴–2‴ broad, spreading-erect; flowers 8‴–6‴ long, "whitish-yellow, with a purple lip."—HAB. Trinidad!, *Pd., Cr.*, in savannahs, Aripo; [Venezuela!; equat. Brazil!].

189. **P. gentianoides,** *Lindl.* "*Subaphyllous: scales appressed,* bluntish; *corymb 6–12-flowered:* bracts ovate, pointed; perigonial divisions lanceolate, interior half as long as the exterior ones; lip cuneate-3-lobed, 3-crested at and along the midrib: middle lobe roundish, lateral shorter, ovate."—Arethusa, *Sw.:* I have seen a sketch of it, taken from an original specimen, by G. Rchb.—"Tuber single, cylindrical; stem 4″–10″ high; flowers pale-purplish."—HAB. Jamaica (*Sw.*), among shrubs, near Morant Bay.

60. EPISTEPHIUM, *Kth.*

Lip free, its base embracing the column: perigone supported by a dentate cupule, spreading. *Column* 3-fid at the summit; the middle lobe forming the anther-bed: "pollinaria 4, compressed."—Root *fascicled-fibrous;* leaves *rigid, reticulated-veiny;* flowers *large, usually spicate.*

190. **E. parviflorum,** *Lindl. Leaves* ovate-lanceolate, pointed, septuplinerved, *contracted into a short petiole;* flowers distant, in a terminal, usually simple spike: bracts minute, deltoid; perigonial divisions spathulate-oblong, equal, a little exceeded by the lip: cupule regular; lip roundish above the contracted base, crispate-lacerate at the margin above the middle, hairy along the 3 approximate, middle nerves.—G. Rchb. (*in lit.*) distinguishes the Trinidad species (E. Cruegeri, *ej.*) by "larger flowers, broader lip, bluntish sepals, and less acuminate leaves:" but these characters appear variable in our series of specimens (except the form of the lip).—4′–6′ high; leaves 5″–3″ long, superior gradually smaller, all distant; flowers white or rosy, 7‴–10‴ long.—HAB. Trinidad!, *Pd., Cr.*, rare, but gregarious, Savannah de Aripo; [Guiana].

61. VANILLA, *Sw.*

Lip adnate to the column, convolute: perigone jointed at the base, spreading-erect. *Column* naked: "pollinaria 2."—Stem *high-climbing by aerial roots;* leaves *jointed at the base;* flowers *large, in axillary racemes;* capsule *pulpy within.*

191. **V. planifolia,** *Andr.* Stem cylindrical; *leaves fleshy, oblong or ovate-oblong,* pointed, contracted at the base, 8–15-nerved; bracts foliaceous; perigone green: divisions lanceolate-oblong; lip "callous below the serrulate, repand summit, and crested with minute, recurved scales at the middle; *capsule elongated,* subcylindrical."—*Bot. Repos. t.* 538: flowers green, with a white lip. *Berg Offic. Gew. t.* 23. *a, b:* flowers wholly green. *Catesb. Carol. Append. t.* 7: flowers white within, but his figure leaves some doubts.—V. sativa, *Schiede* (*sec. Kl. and Bg.*).—Leaves 5″–7″ long, 1″–2″ broad; flowers about 2″, "capsule 6″ long."—Hab. S. Vincent!, *Guild.;* [Mexico; New Granada!; Brazil!].

192. **V. anaromatica,** *Gr.* Stem angular; *leaves chartaceous* (in drying), *broadly ovate,* with a bluntish point, contracted at the base, 30–34-nerved with quadrate areoles; bracts foliaceous, elliptical; flowers "greenish and white;" *capsule elongated,* subcylindrical.—*Plum. Ed. Burm. t.* 188.—Epidendrum Vanilla, *L.* (*excl. syn.* Catesb.). V. aromatica, *Sw.* (*non Lindl.*): Gardner's specimens, *i. e.* V. aromatica, *Lindl.* (V. guianensis, *Splitg. sec. Kl.*), do not belong to our species, which, though its flower is now unknown, may with some confidence be referred to Plumier's figure.—Leaves 6″–8″ long, 3″–3½″ broad; bracts 6‴–12‴, capsule 8″ long, the latter "devoid of aroma" (*Plum.*).—Hab. Jamaica!, *Pd.*, in woods; Dominica!, *Imr.;* Trinidad!, *Cr., Pd.;* [New Granada!].

193. **V. claviculata,** *Sw.* Stem cylindrical; "leaves short, *oblong-lanceolate, acuminate,* half-clasping:" bracts membranaceous, inferior oblong-linear, superior much smaller, ovate; perigone white: divisions lanceolate-oblong; *lip* deltoid above the middle, crispate-repand, *bearded within along the midrib;* "capsule linear-oblong."—*Sw. in Schrad. Journ.* 1799. 2. *t.* 1. *f.* 1. *a.:* the flower. *Desc. Fl.* 5. *t.* 362.—I exclude *V. claviculata,* Lindl. Pl. Wright. 672, which has an angular stem, ovate-lanceolate, 8–10-nerved leaves, smaller, "reddish flowers, linear capsules, and apparently the lip glabrous within."—Leaves "1″–1½″ long," inferior bracts 1″, uppermost 2‴, flowers nearly 2″ long.—Hab. Jamaica!, *March,* in dry woods; [Haiti].

Tribe V. *NEOTTIEÆ.—Pollinaria powdery-granular. Anther cohering by its base with the column, persistent.*—Stem usually terrestrial.

62. PONTHIEVA, *R. Br.*

Lip posterior, adnate to the column together with the 2 interior perigonial divisions. *Column* beaked: anther dorsal, stipitate, oblong-linear: pollinaria "2, bilobed."—Root *fascicled;* scape *glandular above, chiefly at the racemose flowers;* leaves *rosulate.*

194. **P. glandulosa,** *R. Br.* (*L., R.*). Leaves lanceolate-elliptical, pointed, shortly petioled; *perigonial divisions* exterior ovate-oblong, lateral flat, 2 *interior half-cordate-deltoid, slightly cohering below the summit with the ventral one;* lip abruptly dilated above the claw, roundish with a terminal, linear appendage, complicate below it.—*Rich. Cub. t.* 87: a form with tapering-subsessile, lanceolate-oblong leaves (*P. lancifolia,* Rich.)—P. rostrata, *Lindl. in Pl. Hartweg.*—1′–1½′ high; leaves 3″–5″, raceme 3″–6″, perigone 4‴ long, the latter green, or greenish-brown.—Hab. Jamaica!, all coll., in moist places; Dominica!, *Imr.;* [Cuba!; Carolina! to Ecuador!].

195. **P. petiolata,** *Lindl.* Leaves lanceolate-oblong, or oblong-elliptical, pointed, long-petioled; *perigonial divisions* exterior oblong-lanceolate, lateral revolute at the margin, 2 *interior incurved-oblong,* shortly half-cordate at the base, *cohering above with the ventral one,* and *forming with it a broadly ovate,* blunt, minutely 3-denticulate *blade.*—*Bot. Reg. t.* 760.—1½′–2′ high; leaves 3″–6″, raceme 3″–6″, perigone 5‴ long, the latter "whitish- and red-variegated."—Hab. Dominica!, *Imr.*, S. Vincent (*Lindl.*); [Cuba!].

63. CRANICHIS, *Sw.*

Lip posterior, concave, membranaceous: perigonial divisions distinct. *Column* low,

pointed: anther dorsal above its base, beaked: "pollinaria 4."—Root *fascicled; leaves usually rosulate, those of the stem small, or transformed into sheathing scales*; flowers *spicate*.

196. **C. mnecosa,** *Sw.* (*L.*, *R.*). Root-fibres villous; *stem glabrous;* rosulate *leaves* ovate, or ovate-oblong, pointed, petioled, those of *the stem foliaceous, inferior* cucullate-sessile, *ovate-roundish*, superior oblong-lanceolate; flowers densely spicate: bracts oblong-lanceolate, or lanceolate, as long as the ovary: perigonial divisions oblong, spreading; *lip* as long, sessile, *obovate-oblong*, tubercled inside, *free from the column.—Sw. Fl. t.* 29. *f.* 3: *analyt.*—½′–1′(–2′) high; lowest leaves 1″–½″, those of the stem 6‴–4‴ long; flowers white, 1‴–1½‴ long, much shorter than the slender ovary.—HAB. Jamaica!, all coll., in moist, shady woods; Dominica!, *Imr.*, S. Vincent, *Guild.*; Trinidad!, *Cr.*; [Cuba!].

197. **C. pauciflora,** *Sw.* (*L.*). Root-fibres villous; *scape glandular-puberulous above,* distantly sheathed; *leaves rosulate,* roundish-elliptical, or elliptical, bluntish, shortly petioled or subsessile; flowers subdistant, somewhat one-sided: bracts ovate, pointed, half as long as the ovary; *perigonial divisions* spreading, exterior lateral obliquely ovate, ventral oblong-lanceolate, 2 *interior half-ovate; lip* as long, sessile, *concave to the middle, subulate, adnate to the base of the column,* the latter half as long, beaked.—8″–15″ high; leaves 1″–1½″ long; flowers "whitish," 2‴ long.—HAB. Jamaica!, *Dist.*, *M'Nab*, in mountain-woods; [Cuba!].

198. **C. ventricosa,** *Gr.* (*n. sp.*).—Root-fibres villous; *scape glandular above,* distantly sheathed; *leaves rosulate,* elliptical, or lanceolate-oblong, shortly petioled, or subsessile; flowers subdistant, somewhat one-sided: bracts ovate, or oblong, pointed, one-third as long as the slender ovary; *perigonial divisions* spreading, exterior lateral obliquely ovate, ventral oblong-lanceolate, 2 *interior unequally 2-lobed; lip* included, sessile, *bluntly saccate-cucullate with a deltoid summit, continuous with the base of the column,* the latter half as long, beaked.—Allied to *C. gibbosa*, Lindl.!, in which the stem is taller, less glandular, the lowest sheaths foliaceous, and the interior divisions of the perigone spathulate, not auricled. 8″–1½′ high; leaves variable, 3″–1″, flowers 3‴ long.—HAB. Jamaica!, *Wils.*, *Wullschl.*, Manchester; [Cuba!, *Pl. Wright.* 1476, 1479].

199. **C. diphylla,** *Sw.* "Root-fibres glabrous; *scape glabrous; leaves usually* 2–1, cordate, acuminate, petioled; flowers small, numerous in a short spike: bracts minute, ovate, pointed; *perigonial divisions* 2 *interior lanceolate,* smaller than the exterior ones; lip included, keeled on the back; column acuminate."—"6″ high; flowers greenish-white."—HAB. Jamaica (*Sw.*), in bogs of the highest mountains, among mosses.

64. WULLSCHLÆGELIA, *G. Rchb.*

Character of *Cranichis*, but column truncate with a large, depressed, margined stigma, and the recurved anther near its 2-mucronate summit.—A leafless, terrestrial parasite, with fascicled roots; flowers *small, racemose:* perigone *obliquely curved, connivent.*

200. **W. aphylla,** *G. Rchb.!—Sw. Fl. t.* 29. *f.* 1: *analyt.*—Cranichis, *Sw.*—6″–15″ high, slender, puberulous; scales distant, lanceolate-acuminate, about 1‴ long; raceme spiciform, many-flowered, 5″–1″ long: bracts lanceolate, as long as the pedicel, 1‴, ovary 1½‴ long; perigone "whitish," 1‴ long: exterior lateral divisions deltoid, ventral oblong, interior spathulate; lip cucullate-deltoid; column as long as broad, slightly incurved: anther shortly clavate, sessile: stigma half-round.—HAB. Jamaica!, *Pd.*, *Wullschl.*, in shady woods, S. Ann's, rare, Manchester at 2500′ alt., Clarendon; [Cuba!].

65. PRESCOTTIA, *Lindl.*

Lip posterior, cucullate, hastate–sessile upon the obliquely adnate tube or sack of the perigone: divisions of the latter continuous by the anterior margin of the sack. *Column* low: anther dorsal, rounded: "pollinaria 2, bilobed."—Root *fascicled;* leaves *rosulate* (*–single*); flowers *in a many-flowered spike.*

201. **P. stachyoides,** *Lindl.* Leaves ovate, or elliptical-oblong, pointed, sharply complicated at the long-petioled base; spike dense, elongated: lowest flowers somewhat distant: bracts as long as the ovary; *perigonial divisions* blunt, exterior oblong-linear, 2 in-

terior linear, *all recurved* at the summit, *much exceeded by the lip; lip bluntly conical:* basilar auricles linear, incurved.—*Sw. Fl. t.* 29. *f.* 4: *analyt.* (Cranichis, *Sw.*). *Bot. Reg. t.* 1915 (P. colorans, *Lindl.!*: a form with 1–2, large, elliptical-oblong leaves).—1½′–3′ high; leaves 4″–8″, long, variable; flowers greenish: lip 2‴ long.—Hab. Jamaica!, *Macf.*, *Pd.*, on stony mountains and in woods; Dominica!, *Imr.*; [Cuba! and Mexico! to Brazil].

202. **P. myosurus,** *G. Rchb.! ms.* Leaves ovate, or elliptical, pointed, shortly petioled; spike dense, filiform; lowest flowers often somewhat distant: bracts linear-acuminate, a little shorter than the ovary; *perigonial divisions exterior lateral deltoid, erect, including the lip, anterior and 2 interior linear*, blunt, *recurved; lip hemispherical-conical, blunt:* basilar auricles very short.—*Sw. Fl. t.* 29. *f.* 2: *analyt.*—Cranichis oligantha, *Sw.* (*Prescottia*, Lindl.): a name given by mistake instead of *C. micrantha*, the flowers being numerous.—6″–12″ high, slender: leaves 8‴–1½″ long, usually longer than the petiole; flowers "reddish-white," 1‴ long.—Hab. Jamaica!, *Pd.*, *Wullschl.*, on rocks and in mountain pastures, Manchester, Hanover; Dominica!, *Imr.*; [Cuba!].

66. STENOPTERA, *Pd.*

Lip posterior, adhering at the base to a perigonial tube: all divisions narrow. *Column* curved: anther obliquely terminal: pollinaria 2.—Root *fascicled, or fibrous;* leaves *rosulate;* flowers *spicate.*

203. **S. ananassocomos,** *G. Rchb.!* Low; leaves elliptical, mucronulate-pointed, tapering into a short petiole, ciliolate, about half as long as the puberulous scape; spike dense, ovoid: bracts ovate, cuspidate, fringed-ciliate, lower exceeding the flower; perigonial divisions exterior lateral linear, blunt, nearly conform to the lip, ventral cohering with the 2 interior ones to near the summit, forming with them a 3-dentate, spathulate-linear blade; lip as long, spathulate-linear, convolute at the claw, 1–3-nerved.—Spiranthes Gardneri, *Lindl.! in Pl. Wright.* 1482.—1′–2′ high; rosulate leaves many, 6‴–8‴ long, lower bracts 4‴, flowers 2‴ long; perigonial tube obliquely adnate to the ovary-neck, much shorter than the divisions; anther lanceolate-acuminate, as long as the column, its bed with a dorsal tooth: pollinaria clavate, solid: rostellum ovate.—Hab. Jamaica!, *Wullschl.*, among mosses, hanging from trees, near Beaufort; [Cuba!, Brazil].

67. SPIRANTHES, *Rich.*

Lip anterior, channelled, embracing at the base the column, 2-callous: perigonial divisions exterior, lateral oblique at the base, superior and 2 interior often cohering below. *Column* curved: anther dorsal: pollinaria "2, bilobed."—Root *fascicled, usually with tuberous fibres;* leaves *all, or most rosulate, rarely all suppressed;* spike *usually spirally twisted.*

§ 1. *Flowers horizontally curved* (Euspiranthes, *Lindl.*).

204. **S. tortilis,** *Rich.* (*R.*). Scape glabrous below, distantly sheathed with tubular-acuminate scales; *leaves "linear,"* disappearing before anthesis; *spike* slender, *puberulous:* flowers white, nearly one-sided: *bracts* ovate-oblong, pointed, *as long as or little longer than the ovary; perigonial divisions oblong-lanceolate*, exterior lateral as long as the lip, superior and 2 interior cohering at the base; *lip* cucullate, gibbous at the base, keeled on the back: *blade oval, crenate-crispate*, or obsoletely 3-lobed.—*Sw. Fl. t.* 28. *f.* e. *analyt.* —Neottia, *Sw.*—1′–2′ high; spike 1″–4″, flowers 3‴ long.—Hab. Jamaica!, all coll., in savannahs; Antigua!, *Wullschl.*

205. **S. apiculata,** *Lindl.* (*R.*). Scape glabrous, distantly sheathed with clasping, lanceolate-acuminate scales; leaves . . .; *spike* slender, *glabrous*, spiral: *bracts* ovate-oblong, acuminate, *nearly as long as the flower; perigonial divisions oblong-lanceolate*, exterior lateral as long as the lip, superior and 2 interior cohering below; *lip oblong*, blunt, *crenate-crispate.*—1′ high; spike 3″–6″, flowers 2‴ long.—Hab. Jamaica!, *Pd.*; Dominica!, *Imr.*; Trinidad!, *Sieb. Tr.* 118; [French islands!].

206. **S. Hostmanni,** *G. Rchb.* Scape glabrous below, distantly sheathed with tubular-acuminate scales; leaves . . .; spike puberulous, glabrescent, spiral: *bracts* lanceolate-

linear, acuminate, *as long as the flowers; perigonial divisions ovate, pointed*, exterior lateral, as long as the lip, superior and 2 interior cohering at the gibbous base; lip cucullate to the middle, keeled on the back; *blade oval, entire.*—6″ high; spike 1″, flowers 1‴ long.—Hab. Trinidad!, *Cr.;* [Guiana].

207. **S. bicolor,** *Lindl.* Stem distantly sheathed with minute leaves, villous-puberulous; leaves "lowest rosulate, oblong-lanceolate, acuminate," disappearing before anthesis, *those of the stem ovate*, inserted into a tubular sheath, bluntish or pointed, superior acuminate, gradually passing into bracts; *spike* lax, spiral, *densely glandular-pubescent: bracts* ovate-acuminate, *exceeding the ovary; perigonial divisions* exterior lateral lanceolate, gibbous below the lip, *superior and 2 interior cohering below the 3-dentate summit*, forming an ovate-oblong galea with a gibbous base; *lip* complicated, keeled on the back, cucullate at the dilated base, *contracted at the middle: blade obovate, emarginate, subentire.—Bot. Reg. t.* 794.—About 1′ high; spike 2″–4″, flowers 3‴ long, the latter "greenish with a white lip."—Hab. Trinidad!, *Pd., Cr.*, Savannah de Omara.

208. **S. elata,** *Rich.* (*L., R.*). Scape glabrous, sheathed with distant, appressed, clasping-tubular, acuminate scales; *leaves* rosulate, *elliptical* or elliptical-oblong, pointed, *petioled; spike* elongated, spiral, *pubescent: bracts* lanceolate-acuminate, *nearly as long as the flower; perigonial divisions linear, blunt*, exterior lateral cohering at the gibbous base beneath the lip, as long as the latter, superior exceeding the 2 interior ones, little adhering to them at the base; *lip linear, blunt, entire*, channelled-clasping below.—*Bot. Mag. t.* 2026.—Neottia, Sw.—1½′–2′ high; leaves 2″–6″, spike 3″–8″, flowers 3‴ long, the latter "greenish."—Hab. Jamaica!, all coll., in woods; Antigua!, *Wullschl.*, Dominica!, *Imr.;* Trinidad!, *Pd., Cr.;* [Cuba! to Brazil!].

209. **S. Scopulariæ,** *G. Rchb.!* Scape villous, sheathed above with 1–2, clasping, lanceolate, membranaceous scales; *leaf single, cordate-orbicular:* petiole short, sheathing; *spike* spiral, *villous-pubescent: bracts* lanceolate, *nearly as long as the ovary; perigonial divisions lanceolate*, all *distinct* above their obliquely adnate tube; *lip* channelled-clasping below the middle, a little shorter than the perigone: *blade* short, oblong, *fleshy at the bluntish summit*, involute at the *entire* margin.—4″–6″ high; leaves 1½″–2″ diam.; spike 1″–1½″, flowers 2‴ long.—Hab. Trinidad!, *Cr.*, savannahs above S. Joseph.

§ 2. *Flowers curved-suberect: exterior lateral divisions of the perigone deflexed* (Sarcoglottis, *Prl.*).

210. **S. picta,** *Lindl.* Scape glabrous below, sheathed with clasping-tubular, acuminate scales; *leaves* coetaneous, large, *lanceolate-oblong* or *elliptical-oblong*, tapering into the petiole; *spike hairy: flowers large, distant:* bracts linear-acuminate, as long as the ovary; *perigonial divisions oblong-linear*, exterior lateral decurrent; lip included, oblong, channelled below the deltoid, veiny summit, dilated at the base.—*Bot. Reg. t.* 823.—1′–2′ high; leaves 4″–6″, spike 4″–6″, flowers about 8‴–10‴ long, the latter "greenish-white or variegated."—Hab. Trinidad!, *Bradf.*, at the cascade of Diego Martin; [Guiana!, Brazil].

211. **S. simplex,** *Gr.* (*n. sp.*). Scape glabrous below, puberulous above, sheathed with linear-acuminate, distant scales; leaves none at the time of flowering; *flowers* 1–2: *bracts* lanceolate-acuminate, exceeded by the ovary; *perigonial divisions exterior lateral oblong, blunt*, constricted above the middle, *superior and 2 interior* united to the middle, *forming a 3-fid galea with* an elliptical, concave lower portion, and *linear, blunt* lobes: middle lobe longer, recurved, lateral erect; *lip* as long as the perigone, nearly conform to its exterior lateral divisions, constricted above the middle: lower portion concave, elliptical-oblong, upper oval; column slender.—Root-fibres cylindrical, about 1½‴ thick; scape 5″–6″ high, filiform; scales 6‴, bracts 4‴, ovary 6‴, perigone 4‴ long; anther shortly stipitate: pollinaria 2.—Hab. Trinidad!, *Cr.*, at Aripo; [Brazil?, *G. Rchb. in lit.*].

68. STENORRHYNCHUS, *Rich.*

Character of *Spiranthes*, but lip devoid of callosities, column slender with a persistent, long-acuminate rostellum, and exterior lateral divisions of the perigone (in the West Indian species) produced at the base into an adnate sack or spur.—Scape *sheathed with scales; flowers spicate:* bracts *coloured:* perigone *erect-spreading.*

212. **S. speciosus,** *Rich. (R.).* *Leaves elliptical* or elliptical-oblong, pointed; *bracts* oblong-lanceolate, acuminate, *as long as the flowers;* perigone glabrous: *sack adnate, much shorter than the ovary;* lip oblong-linear, shortly acuminate.—*Jacq. Ic. Rar. t.* 600. —Neottia, *Jacq.*—2′ high; leaves 4″–6″, spike 2″–3″, flowers 8‴ long, the latter crimson, approximate.—HAB. Jamaica!, *Bancr.*, *Wullschl.*, in moist woods; [Cuba! and Mexico! to Venezuela! and New Granada!].

213. **S. lanceolatus,** *Rich.* (*R.*). *Leaves lanceolate-oblong, bluntish; bracts* lanceolate or lanceolate-linear, *as long as the ovary;* perigone puberulous: *sack adnate,* blunt at the base, *one-third as long as the ovary;* lip oblong-linear, shortly acuminate.—S. orchioides, *Lindl.* (*excl. synon.*).—2′–3′ high; leaves 6″–10″, spike 3″–6″, "red" flowers 6‴ long.—HAB. Antigua!, *Wullschl.;* [Cuba!].

214. **S. orchioides,** *Rich.* *Aphyllous at the time of flowering;* "leaves serotinous (*Macf.*), long, broadly lanceolate, pointed;" *bracts* lanceolate-linear, *as long as the ovary;* perigone puberulous; *sack produced beyond the adnate portion into a bluntly conical, free spur, half as long as the ovary;* lip oblong, pointed.—*Bot. Mag. t.* 2797.—Neottia, *Sw.*: but comprising probably the preceding, to which his analytical figure (*Fl. t.* 28. *f.* a, b) seems to belong. S. aphyllus, *Lindl.*—2′–3′ high; spike 3″–5″, "lurid" flowers 8‴–10‴ long.—HAB. Jamaica!, all coll., in dry places, along roadsides, common; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Sch.*, *Cr.;* [Haiti! to Brazil!].

69. SAUROGLOSSUM, *Lindl.*

Character of *Spiranthes*, but column slender with a deltoid, undivided stigma, and the lip devoid of callosities.—Leaves *usually rosulate;* flowers *spicate.*

215. **S. tenue,** *Lindl.!* Leaves ovate, pointed, as long as the petiole; scales of the scape membranaceous, linear-acuminate, subappressed; spike few-flowered: bracts lanceolate-acuminate, as long as the ovary; perigonial divisions exterior blunt, superior oblong, lateral and 2 interior linear; lip long-clawed: claw linear, channelled: blade much shorter, roundish.—6″–10″ long, leaves 1″, "white" flowers 6‴ long.—HAB. Jamaica!, *Pd.*, in moist woods, S. Anns; [Cuba!].

70. PELEXIA, *Poit.*

Character of *Spiranthes*, but column low, lip devoid of callosities; and exterior lateral divisions of the perigone produced at the base into an adnate or free spur.—Scape *pubescent;* leaves *rosulate;* flowers *distantly spicate.*

216. **P. spiranthoides,** *Lindl.* Leaves elliptical-oblong, pointed, long-petioled; spike long, loose: bracts lanceolate-acuminate, about as long as the flower; perigonial divisions lanceolate, downward bent; lip dilated at the summit into a roundish, 2-lamellate blade; *spur adnate.*—*Bot. Reg. t.* 985.—Neottia adnata, *Sw.*—1′–3′ high; leaves 4″–5″, spike 2″–8″ long; flowers "greenish, with a white, variegated lip," 3‴ long (except the spur).—HAB. Jamaica (*Sw.*), in woods; S. Vincent (*Lindl.*); [Cuba!, Haiti].

217. **P. setacea,** *Lindl.* "Leaves elliptical, pointed, long-petioled; bracts linear-acuminate, exceeding the ovary; perigonial divisions linear, setaceous-acuminate; lip lanceolate-acuminate, ciliate; *spur half-free,* filiform, curved."—*Bot. Mag. t.* 3403.—Neottia calcarata, *Hook.* (*Sw.?*).—"1′–2′ high; leaves 3″–6″, perigone about 1″ long, greenish."—HAB. Jamaica (*Hook.*); [Cuba to Brazil].

71. PHYSURUS, *Rich.*

Lip anterior, free, spurred at the base: perigonial divisions 2 interior adhering to the exterior superior one. *Column* straight: anther dorsal: pollinaria 2.—Roots *divided;* stem *leafy below;* leaves *petioled:* petiole *dilated at the base into a loose sheath;* flowers *in a spiciform raceme.*

218. **P. hirtellus,** *Lindl.* (*R.*). Stem ascending, pilose; leaves ovate or ovate-oblong, cuspidate; bracts lanceolate-acuminate, exceeding the ovary; perigonial divisons exterior

lateral lanceolate-linear; *lip dilated into a small, semilunar,* ciliate blade: *spur shortly cylindrical,* slightly curved, *much shorter than the ovary.*—Orchis, *Sw.*—6″–12″ high; leaves 1½″–2″, raceme 1″–3″, flowers 1½‴ long, the latter "greenish-white."—HAB. Jamaica!, all coll., in mountain woods; Dominica!, *Imr.*, S. Lucia, S. Vincent; [Cuba!].

219. **P. plantagineus,** *Lindl.!* Stem ascending, puberulous, naked above; leaves ovate-oblong or ovate, pointed; bracts oblong-lanceolate, exceeding the ovary; perigonial divisions exterior lateral oblong-lanceolate, bluntish; *lip dilated* above *into an ovate-oblong,* sub-3-lobed *blade: middle lobe narrow, exserted, revolute-acuminate: spur clavate,* blunt, descending, *exceeding half the ovary.*—*Sl. t.* 147. *f.* 2. *Rich. Cub. t.* 88.—Satyrium, *L.* Orchis, *Sw.* P. Sagræanus, *Rich.* Pelexia bursaria, *Lindl.*—1′–2′ high; leaves 4″–2″, raceme 2″(–6″) long; flowers white, 3‴ long (the spur excluded).—HAB. Jamaica!, *Pd.*, *Wullschl.*, in moist woods; Dominica!, *Imr.*, *Bradf.*; Trinidad, *Cr.*; [Cuba!].

72. CHLOIDIA, *Lindl.*

Lip anterior, free, clawed, spurless, parallel to the column, devoid of callosities: perigonial divisions distinct, the superior diverging from the 2 interior ones. *Column* slender: anther dorsal: "pollinaria 2."—Root *fibrous; stem leafy;* leaves *plaited-chartaceous;* flowers *in compound, short, axillary and terminal racemes:* bracts *small.*

220. **C. flava,** *Gr.* Stout; leaves oblong-lanceolate, acuminate; *panicle* short, subsessile, *most axillary; bracts ovate-deltoid, concave,* inferior oblong-lanceolate; *perigonial divisions* oblong-linear (or linear), 2 *interior as long as the lip;* lip oblong-linear, channelled below the flat, slightly dilated, pointed, spreading-erect summit.—Neottia, *Sw.* C. decumbens, *Lindl.* (*ex parte*).—6′–8′ high; leaves 1′–1½′, panicles 2″–4″, flowers 8‴ long, the latter pale-yellow.—HAB. Jamaica!, *Pd.*, in moist woods, Manchester; [Cuba!].

221. **C. polystachya,** *G. Rchb.* Stem naked below, with tumid nodes; leaves oblong-lanceolate, acuminate; *panicle terminal, peduncled, axillary* shorter, subsessile, *few or none: bracts lanceolate; perigonial divisions* exterior ovate-oblong, 2 *interior* oblong, *longer than the lip;* lip oblong, concave below the middle: blade ovate, pointed, recurved at the margin.—Neottia, *Sw.* C. vernalis, *Lindl.!*—1′–2′ high; leaves 5″–18″, terminal panicle 2″–3″, flowers 3‴ long, the latter "pale-red."—HAB. Jamaica!, *Pd.*, in woods, Manchester, Westmoreland; [Cuba!].

Ulanthe grandiflora, Hook.! (apparently a *Chloræa*), figured in Bot. Mag. t. 2956, as introduced from S. Vincent, is probably not indigenous in that island, like several cultivated plants sent by Rev. Mr. Guilding.

TRIBE VI. *OPHRYDEÆ.—Anther wholly adnate to the column: pollinaria 2, many-lobed, attached to stigmatic glands.*—Root terrestrial, usually tuberous.

73. HABENARIA, *W.*

Lip free, spurred: perigonial divisions distinct. *Anther-cells* diverging, distant at the base: glands naked. *Stigma* 2-appendiculate.—Superior leaves *decrescent;* flowers *in a spike or spiciform raceme.*

* *Perigonial divisions 2 interior 2-partite.*

222. **H. macroceratitis,** *W.* (*R.*). *Leaves ovate-oblong;* flowers white, distant, in a few-flowered spike; bracts oblong-lanceolate, almost as long as the ovary; perigonial divisions exterior lateral reflexed, ovate-lanceolate, superior cucullate-ovate, 2 interior 2-partite: their anterior segments filiform, recurved, twice as long as the posterior lanceolate ones; *lip 3-partite: middle segments linear, lateral ones longer, filiform: spur very long, about thrice as long as the ovary, curved-descending,* filiform, little clavate; appendages of the stigma falcate.—*Sw. Obs. t.* 9.—Orchis Habenaria, *L.* H. macroceras, *Spreng.*—Tubers single; stem 1′–1½′ high; perigone (except its longer filiform divisions) 6‴–8‴, spur about 4″ long.—HAB. Jamaica!, all coll., in grassy plains.

223. **H. maculosa,** *Lindl.!* Leafy; *leaves oblong-lanceolate;* flowers white, in a

dense, spiciform raceme: bracts ovate-lanceolate, about as long as the ovary; perigonial divisions exterior lateral reflexed, 2 interior 2-partite: their anterior segments setaceous; *lip 3-partite: segments linear-setaceous, subequal: spur little longer than the ovary, curved,* filiform; "appendages of the stigma falcate."—Orchis setacea, *Jacq.* O. monorrhiza, *Sw.* (*ex parte;* H. brachyceratitis, *W.*).—Tubers single; stem often spotted, 1½′–3′ high; raceme 3″–8″, flowers 5‴–6‴, spur 9‴–10‴ long.—HAB. Jamaica!, all coll., in grassy plains; Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Cr.*, *Bradf.;* [Cuba! to New Granada!].

224. **H. setacea,** *Lindl.* (*ex descr.*). Slender; *leaves linear-setaceous,* distant; flowers yellow, distant in a 5–8-flowered, narrow spike: *bracts* ovate-lanceolate, acuminate, *a little exceeding or as long as the* long, incurved *ovary;* perigonial divisions exterior lateral reflexed, oblong, bluntish, superior ovate, 2 interior 2-partite: their anterior segments setaceous, as long as the oblong-linear posterior ones; *lip 3-partite: segments linear, subequal: spur as long as the ovary, filiform, straightish-descending;* appendages of the stigma short, thickish, rounded.—Habit of *H. heptadactyla*, G. Rchb.!, but lip-segments narrower. About 1′ high; inferior leaves 1½″–2″ long, 1″ broad at the base; spike 3″, bracts and spurs about 6‴, perigone and lip 2‴ long.—HAB. Trinidad!, *Pd.*, *Cr.*, in savannahs; [Brazil (*Lindl.*)].

225. **H. mesodactyla,** *Gr.* (*n. sp.*). Slender; *leaves linear-setaceous,* distant; flowers very distant in a 3–5-flowered spike: *bracts* ovate-lanceolate, acuminate, *little exceeded by the* incurved *ovary;* perigonial divisions exterior lateral reflexed, oblong-lanceolate, superior deltoid, 2 interior 2-partite: their anterior segments setaceous, twice as long as the linear posterior ones; *lip 3-partite: segments filiform: middle twice as long as the lateral ones: spur little shorter than the ovary,* filiform, somewhat clavate, *descending;* appendages of the stigma short, thickish, rounded.—Nearly allied to the preceding, with which it grows intermingled (*Cr.*), and some characters depend perhaps upon the more advanced state of development in which this was collected. Habit and proportions the same, but stem rather higher, flowers more distant, and lip-segments narrower.—HAB. Trinidad!, *Cr.*, in savannahs, Piarco.

** *Perigonial divisions undivided.*

226. **H. alata,** *Hook.!* *Leaves lanceolate-acuminate;* flowers in a slender, many-flowered spike: bracts oblong-lanceolate, exceeding the winged ovary; perigonial divisions, exterior ovate-lanceolate, pointed, lateral reflexed, 2 interior lanceolate, entire; *lip* as long as the perigone, *entire, filiform,* minutely 2-dentate at the base: *spur little shorter than the ovary,* clavate-filiform, curved; appendages of the stigma oblong, blunt.—H. brachyceras, *Lindl.!* (Orchis monorrhiza, *Sw. ex parte, sec. Lindl.*).—1½′–3′ high, leafy; spike 2″–6″, bracts 8‴–10‴, flowers 3‴–4‴, spur 4‴–5‴ long.—HAB. Jamaica!, all coll., in marshes and savannahs; Antigua!, *Wullschl.*, S. Vincent!, *Guild.;* [Cuba!].

CRYPTOGAMÆ VASCULARES.

CXLIX. RHIZOCARPEÆ.

Sporangia and *antheridangia* included by conceptacula, the latter axillary, petiolar or from the contracted axis.—Aquatic herbs.

1. MARSILEA, *L.*

Conceptacula common to the monosporous sporangia and the antheridangia, longitudinally 2-valved, many-celled: cells transverse, 2-seriate.—Leaves 4-*foliolate*: petiole *slender, circinate in the bud.*

1. **M. polycarpa,** *Hook., Grev.* Leaflets broadly cuneiform, glabrescent; conceptacula numerous, petiolar, one-sided above the base of the petiole, nodding, ovoid, blunt, about as long as their pedicels.—*Hook. Grev. t.* 160.—M. brasiliensis, *Mart.* (*Crypt. Bras. t.* 73): our form, which is smaller than the original one of Hook. Grev., with the conceptacula less numerous (8–3), and densely pilose, when young: by their small size (1''' long) the fruits are very different from those of *M. quadrifolia.*—HAB. Jamaica!, *Pd.*, in ponds, S. Elizabeth; [Guiana, Bahia].

CL. LYCOPODIACEÆ.

Sporangia and *antheridangia* both axillary or doubtful organs of fructification (called sporangia) analogous to the antheridangia in structure and axillary insertion.—Stem *leafy;* leaves *small, moss-like, sessile.*

1. SELAGINELLA, *P. B.*

Sporangia 1-celled, 2–4-valved, 4(–8–1)-sporous. *Antheridangia* 1-celled, 2-valved.—Leaves *in the West Indian species 4-stichous, sterile of two kinds, the larger in two lateral, the smaller or middle ones in two anterior series;* spores *much larger than the antheridia.*

* *Stem continuous.*

1. **S. patula,** *Spring.* *Stem creeping,* shortly branched, continuous; *leaves ovate-oblong, pointed, ciliate,* middle ones subulate; aments short: bracts conform, 4-stichous, acuminate,—Lycopodium, *Sw.* S. sarmentosa, *A. Br.* S. cordifolia, *Spring:* a form with mucronate leaves.—Leaves 1''' long.—HAB. Jamaica!, all coll., in woods; [Cuba!, *Wr.* 940, to Brazil!].

2. **S. serpens,** *Spring.* *Stem creeping,* shortly branched, continuous; *leaves oval-oblong, blunt, ciliate,* those of the branchlets imbricate, middle ones mucronate; aments short: bracts conform, 4-stichous, acuminate.—Lycopodium, *W.*—Leaves $\frac{1}{2}$'''–$\frac{2}{3}$''' long.—HAB. Jamaica (*Spring*), in mountain-woods; [Cuba!, *Wr.* 941].

3. **S. confusa,** *Spring!* *Stem creeping,* spreading-branched, continuous; *leaves ovate, minutely mucronate at the rounded apex,* ciliate (or subentire), most *distant,* middle ones mucronate; aments short: bracts conform, 4-stichous, cuspidate.—Lycopodium ornithopodioides, *Sw.* (*non L.*): [S. ornithopodioides (Lycopodium, *L.;* S. integerrima, *Spring*) is very similar, but has distichous aments]. S. rotundifolia, *Spring!* S. denudata, *Spring:* probably a form devoid of marginal bristles; at least there is a remarkable confusion in Spring's monograph, as Willdenow says (Sp. Pl. 5. p. 36) that he separated his *L. denudatum* and his *L. hispidum* from one and the same Jamaica plant, both growing intermingled; while Spring has quoted the former of these original specimens as a Jamaica species (Monogr. p. 85), the other as his East Indian *S. ornithopodioides* (p. 94); hence I conclude that *L. hispidum*, W. (*L. ornithopodioides jamaicense*, sec. W.), is the ciliate, and *L. denudatum*, W., the eciliate form of *S. confusa.*—Leaves $\frac{3}{4}$'''–1''' long.—HAB. Jamaica! (*S. confusa*, Spring!); S. Vincent;, *Guild.* (*S. rotundifolia*, Spring!); [Cuba!, *Wr.* 942; Portorico!; Venezuela!, *Fendl.* 462; Brazil!].

4. **S. flexuosa,** *Spring!* *Stem ascending,* many-branched, continuous; *leaves obliquely oval-oblong, blunt or bluntish, entire, eciliate:* base of the rib approximate to the lower margin: middle leaves ovate, awned-cuspidate: bracts conform, 4-stichous, spreading, pointed.—*Plum. Fil. t.* 43, *inf. dextr. Raddi, Fil. Bras. t.* 2.—S. didymostachya, *Spring!* Lycopodium stoloniferum, *Raddi* (*non Sw.*). L. denudatum, *Hook. Grev. sec. Spring.*—Leaves 1'''–1$\frac{1}{2}$''' long.—HAB. Jamaica!, *Macf.*, *Wiles;* [Brazil!].

5. **S. substipitata,** *Spring.* *Stem ascending,* many-branched, continuous; *leaves obliquely ovate, pointed, minutely serrulate,* eciliate: base upward produced: middle leaves ovate, awned-cuspidate; bracts conform, 4-stichous, acuminate.—Habit of the preceding and of *S. Martensii*, Spring.—Leaves 1'''–1$\frac{1}{2}$''' long.—HAB. Dominica!, *Imr.;* [Portorico!; Guadeloupe!; Panama! to Brazil! and Peru!].

6. **S. cuspidata,** *Lk.* *Stem cæspitose, ascending or erect,* usually densely branched above, continuous; *leaves ovate* (or ovate-oblong), *cuspidate at the falcate summit, mi-*

nutely ciliate, middle ones semiovate, pointed; bracts conform, 4-stichous, cuspidate.—S. sulcangula, *Spring!:* a large form, its stems erect, simple below.—Leaves rigid, $\frac{1}{2}'''-\frac{3}{4}'''$ long,—HAB. Jamaica!, *Pd.;* [Cuba!, *Wr.* 939, to Brazil!].

7. **S. flabellata,** *Spring. Stem* stout, *erect, pyramidal-branched above,* continuous: secondary branches approximate, dense, pinnately alternate; *leaves ovate-oblong, acute at the subfalcate summit, upward half-cordate at the base,* entire at the lower, *slightly serrulate at the upper margin,* middle ones obliquely elliptical, mucronate; bracts conform, 4-stichous, acuminate.—*Plum. Fil. t.* 43, *inf. sinistr.*—Lycopodium, *L.*—8″–2′ high; leaves of the branches 1‴ long.—HAB. Dominica!, *Imr.*, S. Vincent!, *Guild.;* [French islands!, *Sieb. Mart.* 232; Panama! to Peru! and Brazil!; Pacific islands!; East Indies! to South China!].

S. albonitens, Spring. A West Indian species, distinguished from all others by compressed aments and difform bracts, has not yet been sent from the British islands.

** *Stem jointed at the origin of branches.*

8. **S. stolonifera,** *Spring.* "*Stem creeping,* distichous-branched, jointed; *leaves deltoid, pointed,* denticulate, middle ones falcate, acuminate; aments short: bracts 4-stichous, conform."—Lycopodium, *Sw.*—HAB. Jamaica (*Sw.*); [Cuba; Haiti].

9. **S. ciliauricula,** *Spring.* "Stem creeping, distichous-branched, jointed; *leaves ovate-lanceolate, pointed,* long-ciliate at the base, middle ones falcate, acuminate, long-ciliate; bracts conform, 4-stichous, shortly acuminate."—S. muioides, *Spring (ex parte), sec. A. Br.*—HAB. Trinidad (*Sieb., Cr. sec. A. Br.*); [Venezuela].

2. LYCOPODIUM, *L.*

Sporangia reniform, 1-celled, 2 valved: spores ∞.—Leaves *many–4-serial.*

* *Sporangia in aments.*

† *Sterile leaves of two kinds.*

10. **L. scariosum,** *Forst.* Ascending; *leaves* adnate-decurrent, those of the sterile branches difform, *anterior larger, 2-serial-lateral,* spreading, subfalcate-oblong or ovate-oblong, pointed, *posterior 3-serial,* lanceolate, scarious at the tapering point, conform to the 6-serial leaves of the fertile branches; bracts in cylindrical aments, deltoid-acuminate, scarious above.

[*α.* Aments sessile or shortly peduncled.]

β. Jussiæi, Desv. Fertile branches produced into long, divided peduncles.—*Hook. Ic. t.* 186.—L. Gayanum, *Clos, in Pl. Philippi,* 553.

HAB. Jamaica!, *Pd., Bancr.*, S. Georges, Moorce's Gap (*β*); [*β*, Venezuela! to Fuegia; *α*, New Zealand!, Tasmania].

11. **L. complanatum,** *L.* Ascending; *leaves* subulate-lanceolate, adnate-decurrent, those of the sterile, flattish branches 4-*serial, larger 2-serial-lateral, of the smaller ones one series anterior, the other posterior;* aments peduncled, fastigiate, 12–2: bracts broadly subulate, scarious at the point.—*Schk. Crypt. t.* 163.—L. thyoides, *Kth.:* the tropical larger form with the aments usually more numerous.—HAB. Jamaica!, *Pd., Bancr.*, Blue Mountains; [temperate regions of the globe].

12. **L. carolinianum,** *L.* Creeping, with erect peduncles; *leaves* of the creeping branches difform, *lateral 2-serial,* oblong-lanceolate, pointed, anterior lanceolate-linear, nearly as long, *irregularly 2-serial,* conform to those of the peduncle, *posterior none;* aments single, cylindrical: bracts subulate, 8-serial.—L. repens, *Sw.*—HAB. Trinidad!, *Pd.*, in savannahs; [United States! to Brazil!; trop. Africa! to the Cape!; East Indies!; Tasmania!].

†† *Sterile leaves conform.*

13. **L. clavatum,** *L.* Creeping with ascending, leafy branches; *leaves* many-serial, conform, incurved-spreading, *lanceolate or linear-acuminate* with a terminal hair, *decrescent along the peduncle;* aments cylindrical, fastigiate, 8–2: bracts peltate-deltoid, seta-

ceous-acuminate.—L. trichiatum, *Bory*, and L. aristatum, *Kth.*: the tropical forms with linear-acuminate leaves (*Plum. Fil. t.* 155. *B.*).—HAB. Jamaica !, *Pd.*, *Wiles*; Trinidad !, *Lockh.*; [throughout the globe].

14. **L. cernuum,** *L.* Erect, woody, thyrsoid with dichotomous branches above; *leaves* many-serial, conform, incurved-spreading, linear-acuminate; *aments cernuous, sessile-terminal:* bracts deltoid-acuminate, denticulate.—*Plum. Fil. t.* 165. *A.*—3′–6′ high.

α. Slender; leaves loosely imbricated, furrowed on the back, about 1‴ long; aments short, often ovoid.

β. *curvatum*, Sw. Stout; leaves densely imbricated, usually smooth on the back, about 2‴ long; aments shortly cylindrical.

HAB. Jamaica !, *Shepherd*; Dominica !, *Imr.* (α, β), S. Vincent !, *Guild.*; [all tropical countries to the Azores !, Southern China !, and the Cape !].

15. **L. phlegmaria,** *L.* Pendulous, dichotomously branched; *leaves 4-serial*, conform, erect-spreading, ovate or ovate-lanceolate, abruptly passing into much smaller bracts or peduncular leaves; aments filiform, forked, or dichotomous, often elongated.

[α. Leaves pointed, shortly petioled; aments sessile: bracts minutely deltoid, often scarcely as long as the sporangia.]

β. *nummularifolium*, Bl. Leaves ovate or ovate-oblong, blunt or bluntish, subsessile; aments peduncled or sessile: bracts deltoid-subulate, usually exceeding the sporangia, those of the peduncled aments gradually passing into oblong-lanceolate peduncular leaves. —*Hook. Grev. Ic. t.* 212.—L. aqualupianum, *Spring*: a form with bluntish or subacute leaves.

HAB. Trinidad !, *Parker* (β), on trees; [β. Cuba !, *Wr.* 936, 945; Venezuela !, *Fendl.* 320; and East Indies; α. most tropical mountains to the southern temperate zone].

** *Sporangia axillary; leaves conform.*

16. **L. reflexum,** *Lam.* Ascending, few-branched, leafy; *leaves* many-serial, *recurved, linear-acuminate, minutely denticulate,* fertile not decrescent.—*Plum. Fil. t.* 166. *A.*—L. squarrosum, *Sw.* (L. rigidum, *Sw.*) L. Sieberianum, *Spring*.—Leaves 2‴–4‴ long, ¼‴–⅓‴ broad.—HAB. Jamaica !, *Macf.*, *Pd.*, *Bancr.*; Dominica !, *Imr.*, S. Vincent !, *Guild.*; [Cuba !, *Wr.* 933, to French islands !, Mexico ! to Brazil ! and Chili].

17. **L. dichotomum,** *Jacq.* Ascending or flexuose, twice–thrice-forked with diverging branches, very leafy; *leaves* many-serial, *flaccid-spreading* (or recurved), *linear-acuminate,* quite entire, fertile ones gradually, but little decrescent.—*Jacq. Amer. Pict. t.* 252. *Radd. Fil. Bras. t.* 4.—L. mandiocanum, *Radd.* L. reflexum, *Pl. Lechl.* 2012.—Leaves 10‴–6‴ (–15‴) long, ⅓‴ broad at the base.—HAB. Jamaica !, *Pd.*, *Bancr.*, on trees, in mountain-woods; [Cuba !, *Wr.* 944, to South Brazil ! and Peru !; Galapagos !].

18. **L. linifolium,** *L.* Pendulous, several times (or more) forked with flaccid branches, leafy; *leaves* many-serial, *spreading, lanceolate-linear, acuminate,* a little contracted at the base, quite entire, fertile ones little or much decrescent.—*Plum. Fil. t.* 166. *C.*—L. passerinoides, *Kth.* (L. nitens, *Cham. Schlecht.*; *Kunz. Farnkr. t.* 80): a form with shorter leaves.—Leaves 10‴–6‴(–4‴) long, 1‴–½‴ broad.—HAB. Jamaica !, *Pd.*, *M'Nab*, *Wils.*, on trees, S. Anns, rare near Bath; [Cuba !, *Wr.* 934, to Brazil and Peru !].

19. **L. taxifolium,** *L.* At length pendulous, several-times–once-forked with flaccid branches, leafy; *leaves* sub-6-serial, *spreading, narrowly lanceolate or oblong-linear,* little or not tapering at the base, *shortly acuminate,* quite entire, fertile ones little decrescent.—*Hook. Grev. Ic. t.* 131.—Leaves 8‴–5‴ long, 1‴–1½‴ broad, more rigid than in the preceding.—HAB. Jamaica !, *Macf.*, *Pd.*, *Wils.*, on trees; Dominica !, *Imr.*, S. Vincent !, *Guild.*; [Cuba !, *Wr.* 937, to Peru !].

20. **L. verticillatum,** *L.* Pendulous, dichotomous with flaccid branches, leafy; *leaves short,* many-serial, *erect-spreading, incurved, setaceous, acuminate,* quite entire, fertile ones little decrescent.—*Plum. Fil. t.* 166. *B.*—L. acerosum, *Sw.*—Leaves 2½‴–1½‴ long.—HAB. Jamaica !, *Pd.*; Dominica !, *Imr.*; [Cuba !, *Wr.* 935, to Brazil and Ecuador !; Natal ! to Bourbon].

21. **L. myrsinites,** *Lam.* Pendulous, forked; *leaves 4-serial, shortly deltoid-ovate, pointed,* entire, often ciliate, erect-spreading above the appressed, adnate base, fertile ones

not decrescent.—*Hook. Grev. Ic. t.* 109.—L. tetragonum, *Hook. Grev.*: the transverse furrow on the back of the leaf-base, by which Spring has distinguished from it *L. myrsinites*, is not constant.—Leaves 2‴–1‴ long.—HAB. Dominica; Trinidad (*Spring*); [Haiti to Brazil!, Ecuador!, Peru].

3. PSILOTUM, *Sw.*

Sporangia 3-celled, loculicide: spores ∞.—Leaves *minute, distant, fertile ones bifid.*

22. **P. triquetrum,** *Sw.* Stem dichotomous above: *branches* numerous, 3-*quetrous*; sterile leaves shortly linear.—*Plum. Fil. t.* 170. *A. Schk. Crypt. t.* 165. *b. fig. med.*—Lycopodium nudum, *L.*—HAB. Jamaica!, *Pd.*, on trees and decayed wood; Dominica!, S. Vincent!, *Guild.*; [all tropical countries to Louisiana!, Carolina!, Australia!, and Southern China!].

23. **P. complanatum,** *Sw.* Stem several times forked: *branches* distant, *flat-compressed*, forming serratures at the origin of the marginal, subulate leaves.—*Schk. Crypt. t.* 165. *b. fig. sin.*—P. flaccidum, *Wall.*—HAB. Jamaica (*Sw.*), on trees; [Cuba!, *Wr.* 947; Mexico!; Pacific islands!; East Indies!].

CLI. EQUISETACEÆ.

Sporangia longitudinally dehiscent, inserted at the under side of peltate scales, the latter racemose in a small cone: spores supported by 2 elastic fibres (the elateres).—Stem *jointed; joints sheathed by united scales, longitudinally furrowed, leafless*: branches *whorled.*

EQUISETUM, *L.*

Single genus.

§ 1. *Stem persistent: mostly the branches only rough.*—"Stomata 2-serial in the furrows, sunk beneath the epidermis."

1. **E. giganteum,** *L.* *Stem* stout, 20–30(–42)-*furrowed*, rather smooth: *sheaths* appressed, *white*, their teeth deciduous, partially combined; branches numerous, ascending, simple, fertile rough, 6–7(–8)-furrowed, their sheaths somewhat spreading, with scarious, whitish, persistent teeth.—*Desc. Fl.* 2. *t.* 112.—E. Humboldtianum, *Fendl. Pl. Venez.* 1801: a form "not less than 20′ high" (*Fendl.*), but the stem of his specimen not stouter than in the Jamaica plant, viz. 6‴ diam.; in E. xylochætum, *Mett.* (E. Lechleri, *Milde.*!, E. giganteum, *Gay, Fl. Chil.* 6. *p.* 471), the stem is often 1″ thick and the sheath-teeth black and persistent.—4′–6′ high or much higher; each row of stomata usually double.—HAB. Jamaica!, *Pd.*, *March*, *Wils.*, in lagoons and swamps, at the ferry, Morant Bay; Trinidad!, *Cr.*; [Haiti to Martinique; Mexico!; Venezuela!; Peru!; Minas Geraes! (*Gardn.*, 15′ high); Chile].

§ 2. *Stem decaying in the winter to the rhizoma.*—"Stomata scattered in the furrows, superficial."

2. **E. palustre,** *L.* *Stem deeply* 8(6–9)-*furrowed*, slightly roughish, sterile and fertile green: sheaths appressed: teeth persistent, lanceolate-acuminate, erect, blackish; branches simple, usually 5(4–6)-furrowed; cone blunt.—The allied South American *E. bogotense*, Kth. (Fendl. Venez. 2182), has 4-furrowed, nearly simple stems and loose sheaths.—HAB. S. Vincent!, *Guild.*, according to a single specimen, on the same sheet with North American specimens, in Herb. Hook.; [northern temperate zone].

CLII. FILICES.

Sporangia at the under side (rarely on both sides) of a leaf in sori.—Leaf *circinate* (*except in* Ophioglosum).

TRIBE I. *OPHIOGLOSSEÆ, R. Br.—Sporangia exannulate, coriaceous.*

1. OPHIOGLOSSUM, *L.*

Sori 2, linear, along a narrowly contracted, petioled leaf-segment, each of 1-serial, cohering, vertically half-2-valved sporangia.—Fertile leaf-segments *single (or several), inferior.*

1. **O. reticulatum,** *L.* Rhizoma excrescent; *leaf* single, *cordate-deltoid*, or subcordate, pointed, entire: *no midrib;* veins in a network with appendages: fertile segment (spike) single from the base of the blade, long-petiolulate, linear, mucronate.—*Plum. Fil. t.* 164. *Hook. Grev. Ic. t.* 20.—Leaf 1″–3″ diam.—HAB. Jamaica!, *Wils., Pd.*, common in coffee-plantations, Port Royal; Montserrat (*P. Br.*); [Cuba! to French islands!, and all tropical countries].

2. MARATTIA, *Sw.*

Sori longitudinally 2-partite, dorsal on a veinlet; segments connivent, at length spreading, 10–4-celled: cells (sporangia) dehiscent by vertical-introrse fissures.—Leaf 2–several-times pinnate, stipulate: veinlets free, simple, or forked: petiole jointed: sori on the under side of the leaf, single on their veinlet.

2. **M. alata,** *Sw.* *Leaf 2-pinnate, glabrous: secondary segments* oblong-lanceolate, pointed, superior *sharply serrate,* inferior pinnatifid below, lowest pinnatipartite: *rhachis* usually paleaceous, *secondary ones winged;* sori oval, sessile, supported by scales.—*Sm. Ic. Ined. t.* 46. *Hook. Gen. t.* 26.—2′–3′ high; secondary leaf-segments 1″ long, 4‴ broad. —HAB. Jamaica!, *Pd., Al., Wils.*, in woods at the base of the Blue Mountains; S. Vincent!, *Guild.*; [Cuba! to Venezuela!].

M. lævis, Sm. (serratures and lobes bluntish), was probably sent from Haiti, not from Dominica; but according to Mr. J. Smith (Bot. Herald, p. 343) it is only a form of ***M. alata***, Sw.

3. DANÆA, *Sm.*

Sori linear, on approximate, excurrent veins, many-celled, surrounded by a plait: cells (sporangia) 2-serial, dehiscent by a terminal pore.—Leaves *pinnatisect (-simple), chartaceous:* segments of the fertile leaf *narrower than of the sterile one:* veins *costate, 2-partite-forked, or simple:* rhachis *usually jointed.*

3. **D. nodosa,** *Sm.* *Leaf-segments linear-oblong,* pointleted, quite entire (or serrulate at the summit), distant, "15-*jugal:*" *rhachis naked:* fertile segments lanceolate-linear, acuminate.—*Plum. Fil. t.* 108. *Hook. Grev. Ic. t.* 51.—Asplenium, *L.*—4′–5′ high; leaf-segments 10″ long, 1½″ broad, fertile ones 7″–4″ long, 12‴–8‴ broad.—HAB. S. Vincent!, *Guild.*; [Cuba! to Brazil].

4. **D. elliptica,** *Sm.* *Leaf-segments elliptical-lanceolate or lanceolate-oblong,* pointleted, quite entire, distant, 4–6-*jugal: rhachis slightly margined above:* fertile segments lanceolate, acuminate.—*Sl. t.* 41. *f.* 1. *Hook. Grev. Ic. t.* 52.—2′ high; leaf-segments 6″–7″ long, 2″–1½″ broad, fertile ones 5″–2″ long, 10‴–5‴ broad.—HAB. Jamaica!, *Pd.*, in moist woods; S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [French islands! to Venezuela!].

5. **D. stenophylla,** *Kz.* *Leaf-segments linear or lanceolate-linear,* pointleted-acuminate, entire below the sharply serrulate summit, approximate, 12–15-*jugal*, lowest shorter: *rhachis margined:* fertile segments linear, acuminate.—*Kunz. Farnkr. t.* 28.—2′–3′ high; leaf-segments 4″ long, 6‴ broad, fertile ones 4″–1″ long, 2‴–3‴ broad.—HAB. Jamaica!, *Pd.*, in moist woods; [Guadeloupe!].

6. **D. alata,** *Sm.* *Leaf-segments linear-oblong,* acute, or pointleted, sharply serrulate towards the summit, 9–11-*jugal*, lowest short, more distant than the rest: *rhachis narrowly winged* (except at the base): fertile segments lanceolate-linear or oblong-linear.—*Plum. Fil. t.* 109. *Hook. Grev. Ic. t.* 18.—D. Moritziana, *Prl. sec. Eat. in Pl. Wr.*—1½′–2′ high; leaf-segments 3″–5″ long, 8‴–10‴ broad, fertile ones 1″–3″ long, 4‴–3‴ broad.—HAB. Jamaica (*Sw.*); S. Vincent (*Guild.*); [Cuba! to French islands; Venezuela].

TRIBE II. *OSMUNDACEÆ, R. Br.—Sporangia membranaceous, provided with a terminal, transverse ring or apophysis, longitudinally dehiscent.*—Ring in the West Indian genera (*Schizacaceæ*) complete: slit unilateral.

4. ANEMIA, *Sw.*

Sporangia sessile, ovate, 2-serial on the back of contracted, flattish leaf-segments.—Leaf *divided:* fertile segments *racemiform.*

§ 1. *Sterile and fertile leaves distinct.* (Coptophyllum, *Gardn.*)

7. **A. aurita,** *Sw. Leaf coriaceous,* shining-glabrous above: *segments obliquely ovate, or obovate,* cuneate at the margined base, denticulate at the rounded summit, striate above by impressed, flabellate-dichotomous, free veins: *inferior pinnately* 3(4–2)-sect, gradually passing upwards into undivided blades; *fertile petioles single, approximate to the sterile ones.—Hook. Ic. Pl. t.* 903.—Osmunda, *Sw.*—6″–8″ high; leaf-segments 5‴–10‴ long.—HAB. Jamaica!, *Wils.*, on calcareous rocks, rare, on the summit of Dolphin's Peak.

The other West Indian species with special fertile leaves, viz. *A. bipinnata,* Sw., *A. filiculifolia,* Sw., and *A. verticillata,* Sw., though stated by Willdenow to grow in Jamaica, do not occur in our collections, being apparently confined to Haiti, as well as *A. cicutaria,* Pœpp., to Cuba.

§ 2. *Leaf* 3-*sect at the base:* 2 (–1) *lateral segments fertile, long-petiolulate, middle sterile, sessile or shortly petiolulate.* (Euanemia, *Mett.*).

8. **A. phyllitidis,** *Sw. Sterile leaf-segment pinnatisect,* sessile, membranaceous, *glabrous:* special segments 4–8-jugal, oblong-lanceolate, acuminate, repand, or repand-denticulate: *veins anastomosing,* forming narrow areoles.—*Plum. Fil. t.* 156: leaf too large. *Hook. Gen. t.* 103.—Osmunda, *L.*—2′–4′ high; secondary leaf-segments, 2″ long.—HAB. Jamaica!, *Wils.*; [Cuba! and Mexico! to Brazil!].

9. **A. mandiocana,** *Radd. Sterile leaf-segment pinnatisect,* sessile, membranaceous, glabrescent: *special segments* 10–4-jugal, oblong, bluntish, unequally serrulate chiefly at the upper margin, *truncate at the upwards produced base,* uppermost much decrescent: rhachis usually hairy: *veins flabellate-dichotomous, free.—Plum. Fil. t.* 157. *Hook. Gen. t.* 90.—Osmunda hirta, *L.* (*Anemia,* Sw. ex cit.): Plumier's form with a pilose petiole, but the name must be rejected.—Very variable, 1½′–½′ high; lower leaf-segments 1″ long, 4‴ broad.—HAB. Jamaica (*Sw.*); Trinidad!, *Lockh.*, on roadsides, rare; [Haiti and Mexico to Brazil!].

10. **A. humilis,** *Sw. Sterile leaf-segment pinnatisect,* sessile, membranaceous, hairy, or glabrescent: *special segments* 10–5-jugal, spathulate, blunt, serrulate, *cuneate at the base,* uppermost subequal: rhachis pilose: petiole short: *veins flabellate, simple and forked, free.—Schk. Crypt. t.* 141. *f. sin.*—Osmunda, *Cav.*—4″–8″ high; secondary leaf-segments 10‴–6‴ long, 4‴–2‴ broad.—HAB. Jamaica!, *Pd.*; [Mexico! to Peru! and Brazil!].

11. **A. hirsuta,** *Sw. Sterile leaf-segment pinnatisect,* sessile, chartaceous, *hairy: secondary segments pinnatipartite, or pinnatifid, striate above by* prominent, flabellate, forked or simple, *free veins:* tertiary lobes oblong, or linear, bluntish, few serrate, or entire: common rhachis pilose.—*Plum. Fil. t.* 162.—Osmunda, *L.* A. dissecta, *Prl.* (*Rel. Hænk. t.* 11. *f.* 4; *Sl. t.* 25. *f.* 6): the form with pinnatipartite secondary segments.—1½′–½′ high; primary leaf-segments 15‴–6‴ long, uppermost decrescent.—HAB. Jamaica!, all coll., common, Port Royal, S. Andrews, at 4000′ alt.; [Cuba! and Mexico to Brazil! and Tucuman!].

12. **A. adiantifolia,** *Sw. Sterile leaf-segment deltoid, 2-pinnatisect, shortly petiolulate,* chartaceous, glabrous above, glabrescent beneath: tertiary segments upwards decrescent pinnatipartite-few-serrate or lowest pinnatisect, *ultimate cuneate-elliptical, bluntish, denticulate above, striate by* prominent, flabellate-dichotomous, *free veins:* axis usually hairy.—*Plum. fil. t.* 158. *Hook. Grev. Ic. t.* 16.—Osmunda, *L.* A. aspleniifolia, *Sw.*—1′–1½′ high; sterile leaf-segment 8″–6″ broad, exceeding in length or equalling the fertile segments.—HAB. Bahamas!, *Swains.*; Jamaica!, *Pd., Hartw., Wiles,* on rocks; Dominica; [Cuba! and Mexico! to Brazil!].

5. SCHIZÆA, *Sm.*

Sporangia sessile, ovate, 2–4-serial on the concave back of revolute, contracted leaf-segments: the latter forming terminal appendages of the nerves of the sterile leaf.—Leaf 1-*palmatinerved, rigid*: fertile segments *short, usually pilose beneath.*

13. **S. elegans,** *Sw.* *Leaf* long-petioled, *dichotomously palmatisect: segments cuneate, unequally palmatifid: lobes oblong, inciso-dentate at the summit*: nerves flabellate-dichotomous: *fertile appendages pinnatipartite*: segments recurved, 6–10-jugal; sporangia 2-serial.—*Vahl, Symb.* 2. *t.* 50.—Acrostichum, *V.*—1′–2′ high; leaf-segments 3″–5″ long, lobes 8‴–2‴ broad, fertile appendages 4‴–6‴ long.—Hab. Jamaica!, *Pd.*, very rare, in dry woods, Westmoreland, Bluefield Mountains at 2000′ alt.; Trinidad!, *Pd., Cr.*; [Mexico to Brazil].

14. **S. pennula,** *Sw.* *Leaf simple, filiform,* unicostate–3-gonal, shortly tapering at the summit: *fertile appendage subpalmatisect* (contracted pinnatisect): segments 6–2-jugal, incurved, pilose beneath; sporangia 4(–2)-serial.—*Schk. Crypt. t.* 136. *f. dext. Hook. Gen. t.* 111. *A. Hook. Grev. Ic. t.* 54.—S. trilateralis, *Schk.* S. subtrijuga, *Mart.* (*Kze. Farnkr. t.* 98. *f.* 1): our Trinidad form, not to be distinguished but by lower growth and shorter appendages.—1½″–½″ high; appendages 8‴–12‴ long.—Hab. Trinidad!, *Cr.*; [Guiana!, Brazil!].

6. LYGODIUM, *Sw.*

Sporangia shortly pedicellate at the summit (hemianatropous), oval, 2-serial on the back of appendages of the leaf-margin, each supported by an epiphyllous scale.—Stem *twining*; leaves *divided, or compound*; fertile appendages *oblong-linear, blunt, crenate.*

15. **L. volubile,** *Sw.* Stem cylindrical; *leaves pinnate: leaflets* 3–5-jugal, *oblong-lanceolate, undivided,* jointed at the base: veins forked: fertile appendages short, terminating numerous, small serratures.—*Sl. t.* 46. *f.* 1. *Schk. Crypt. t.* 138.—L. scandens, *Schk.*—Leaflets (the appendages excluded) 3″–5″ long, 5‴–6‴ broad, truncate or rounded at the base, appendages 1‴–2‴ long.—Hab. Jamaica!, *Wils.*; Trinidad!, *Lockh., Pd.*; [Cuba!, to Brazil!].

16. **L. venustum,** *Sw.* Stem cylindrical, jointed; *leaves* 2–3-*pinnate: leaflets* 2–6-jugal, *hastate–3-partite at the base, pinnatifid-serrate above it*: petiole pilose: fertile appendages as long as the transverse diameter of the blade, terminating chiefly the lower lobes.—*Schk. Crypt. t.* 139. *fig. sup.*—L. polymorphum, *Kth.*—Leaflets (the appendages excluded) 1″–2″ long, 6‴–4‴ broad at the base; appendages 3‴ long.—Hab. Trididad!, *Sch.*; [Mexico! to Brazil!].

Tribe III. *GLEICHENIEÆ, R. Br.—Sporangia with a transverse, or oblique, complete ring about the middle, longitudinally dehiscent, superficial or sunk into the leaf.*

7. MERTENSIA, *W.*

Sori round, naked, superficial, serial, dorsally inserted into special veinlets: sporangia subsessile, usually few in each sorus: ring transverse (or oblique).—Leaf *rigid, forked, or dichotomously divided*: segments *pinnatipartite, or pinnatisect.*

* *Veins bifid.*

17. **M. Bancroftii,** *Kz.* Petiole simply forked: *primary segments 2-pinnatisect, tertiary ones* numerous, horizontal, linear, bluntish, entire, revolute at the margin, *adnate-decurrent* at the base, hence somewhat distant, glabrous, glaucous beneath, uppermost decrescent; sori of 3–4 sporangia at the simple forking of the veins.—*Plum. Fil. t.* 25. *Hook. Spec.* 1. *t.* 4. *A.*—Gleichenia, *Hook.* M. glauca jamaicensis, *Sw.*—3′–4′ high; secondary leaf-segments 10″–6″, tertiary 9‴–6‴ long.—Hab. Jamaica!, *Bancr., Pd., Al.*, rare, near the summit of the Blue Mountains; [French islands!; Mexico! to Brazil!].

18. **M. furcata,** *W.* Petiole 2–3-chotomous: *leafy portions repeatedly dichotomous,* pinnatipartite, oblong-linear, shortly tapering at the summit, *ultimate and penultimate forkings of nearly equal length*: segments linear, blunt, equally dilated at the base, glabrous or whitish-villous beneath; sori of 3–5 sporangia near the simple forking of the veins.—*Plum.*

Fil. t. 28.—Acrostichum, *L.* Polypodium, *Sw.* Gleichenia, *Spreng.* M. bifida, *W.* (*Act. Holm.* 1804. *t.* 5. B., agreeing with G. dichotoma, *Pl. Lechl.* 2040): a form with the leafy portions but once forked (or simple), but distinguished from the two following species by the inferior fork as long as the superior, both equally pinnatipartite.—7′–8′ high (*Sl.*); ultimate leafy portions 3″–5″, segments 6‴–10‴ long, the latter 1‴ broad beyond the base.—Hab. Jamaica (*Sw.*), forming thickets in the mountains; [French islands, and Mexico to Peru! and South Brazil].

19. **M. farinosa,** *Kaulf.* Petiole 2–3-chotomous: *leafy portions but once forked,* pinnatipartite, *oblong-linear*, tapering at both ends: *ultimate forking much longer than the short penultimate one,* the latter naked below on one side: *segments* linear, blunt, equally dilated at the base, *puberulous beneath or glabrous;* sori of 3–5 sporangia near the simple forking of the veins.—*Kze. Analect. t.* 3. *Hook. Spec.* 1. *t.* 7. B.—Gleichenia Mathewsii, *Hook.* M. pubescens, *W., sec. Kl., Eat. in Pl. Wr. !*—1½′–2′ high; ultimate leafy portions 5″–12″, segments 6‴–8‴ long, the latter 1‴ broad beyond the base.—Hab. Jamaica!, *Pd., Al.*, on the summit of the Blue Mountains; Dominica!, *Imr.;* Trinidad!, *Cr.;* [Cuba! and Mexico to Peru].

20. **M. longipinnata,** *Kl.* Petiole 2–3-chotomous: *leafy portions but once forked,* pinnatipartite, *linear-oblong*, gradually tapering towards both ends: *ultimate forking long, much longer than the short penultimate one,* the latter naked below on one side: *segments* linear, bluntish, equally dilated at the base, *rusty-tomentose beneath;* sori of 4–2 sporangia near the simple forking of the veins.—*Hook. Grev. Ic. t.* 15.—M. furcata, *Sieb. Mart.* 234. M. pubescens, *Liebm.* Gleichenia immersa, *Hook. Grev.* (*exclus. synon.*). G. longipinnata, *Hook.* (*ex descr.*).—4′–5′ high; ultimate leafy portions 1′–2½′, most segments 1½″–1″ long.—Hab. Dominica!, S. Vincent!, *Guild.;* [French islands! and Mexico! to Brazil!].

** *Veins 3–4-fid* (Dicranopteris, *Bernh.*).

21. **M. pectinata,** *W.* Petiole 2–3-chotomous and ultimately branched: *leafy portions simple, geminate,* pinnatipartite: *each pair at the summit of a slightly margined, partial petiole:* segments oblong-linear, emarginate, glabrous, often glaucous (rarely hairy) beneath; sori of 8–10 sporangia on one branchlet of 3–4-fid veins.—*Willd. in Act. Holm.* 1804. *t.* 4. *Hook. Grev. Ic. t.* 14.—Gleichenia, *Prl.* M. glaucescens, *W.*—Trailing, often 20′–30′ long (*Pd.*); leafy portions 6″–8″, segments 4‴–12‴ long, the latter 1⅓‴–2‴ broad.—Hab. Jamaica!, *Pd., Al.*, S. Anns, Blue Mountains; Dominica, S. Vincent!, *Guild.;* [French islands!, and Mexico to Brazil!].

22. **M. dichotoma,** *W.* Petiole repeatedly 2(–3)-chotomous: *leafy portions simple, geminate,* pinnatipartite: *one pair at the summit of each cylindrical, partial petiole, other portions opposite at the superior bifurcations:* segments linear, emarginate or blunt, glabrous; sori of 6–10 sporangia on one branchlet of 3–4-fid veins.—*Schk. Crypt. t.* 148.—Gleichenia, *Hook.* G. Hermanni, *R. Br.*—1′–3′ high; leafy portions usually 4″–8″, segments 10‴–4‴ long, the latter 1‴ broad.—Hab. Trinidad!, *Lockh.;* [Cuba! to French islands!, and most tropical countries of the globe].

Tribe IV. *HYMENOPHYLLEÆ,* Endl.—*Sporangia with a complete, transverse (rarely oblique) ring about the middle, longitudinally dehiscent, inserted into an indusiate column.*

8. TRICHOMANES, *L.*

Sori marginal: indusium inferior, tubular, usually sunk into the leaf or margined: limb subentire or 2-lipped: column usually filiform, exserted, fertile at the base, inserted at the forking of a veinlet, the branches of which run into the indusium.—Leaf *mostly pellucid-membranaceous, devoid of stomata:* veins *mostly free, sometimes connected by streaks of special, prosenchymatic tissue.*

§ 1. *Indusia free along the whole margin of a narrowly, linear, special leaf.*—Sterile leaves deeply pinnatifid: veins dichotomous (*Féea,* Bory).

23. **T. spicatum,** *Hedw.* *Leaves* cæspitose, sterile *deeply pinnatifid,* shortly petioled, *fertile* ones exserted, *narrowly linear,* shorter than their slender petiole: sterile segments

oblong-linear, bluntish, crenulate-repand, glabrous; *indusium* campanulate, substipitate, *truncate*.—Sterile leaves 4″ long, 1″ broad. fertile blade 2″–3″ long, ½‴ broad.—HAB. Jamaica !, *Pd.*, *Wils.*, along mountain-rivulets, S. Andrews, Bath, at 1800′–3500′ alt.; S. Vincent !, *Guild.*; Trinidad !, *Lockh.*, *Pd.*, in rocky ravines, at the foot of Mount Tocuche; [Guadeloupe ! ; Panama, Guiana !, Ecuador !].

§ 2. *Indusia sunk into a linear, special leaf, inserted along its whole margin into simple, short veins, laterally cohering at the summit.*—Sterile leaves deeply pinnatifid: veins in a network (*Hymenostachys*, Bory).

24. **T. elegans,** *Rudg.* *Leaves* cæspitose, sterile *deeply pinnatifid,* shortly petioled, *fertile ones linear,* denticulate by the marginal teeth of the indusia, supported by a slender petiole: sterile segments oblong-linear, blunt, crenulate, glabrescent; *indusia* sunk, cyathiform, *laterally dentate:* teeth bluntish, common to each pair.—*Hook. Gen. t.* 108.—Sterile leaves 3″–6″ long, 1″ broad, fertile 6″–10″ high, 2‴–3‴ broad.—HAB. Trinidad !, *Pd.*, *Cr.*, in marly ravines near Mount Tamana, Irais; [Panama !, Venezuela !, Guiana ! to Peru ! and Brazil !].

§ 3. *Indusia at the summit or along both margins of the leaf-divisions: veins forked or dichotomous.*—Primary leaf-divisions undivided.

* *Indusia or their summit exserted: limb very short or none.*—Special leaves fertile. (Neuromanes, *Trevis.*)

25. **T. pennatum,** *Kaulf.* *Leaves* cæspitose, *pinnatipartite,* very narrowly decurrent, glabrous or hairy at the rhachis, fertile along both margins: *segments* linear-oblong, bluntish, denticulate, *cohering by the narrowly margined rhachis,* superior adnate, broadly decurrent, *fertile* bluntly acuminate, *uppermost much longer than the rest: veins* approximate, forked or 2-partite, intermingled with a few simple ones, *all connected by numerous transverse streaks; indusium exserted,* stipitate or subsessile: limb very short or none, entire or laterally 2-lobed.—*Hook. Grev. Ic. t.* 9.—T. floribundum, *Hook.* Neuromanes Kaulfussii, *V. d. Bosch.*—1′–3′ high; segments of the sterile leaf 1½″–2″ long, 8″ broad, fertile 3″–6″ long, 6‴–12‴ broad; column usually longer than in the following.—HAB. Trinidad !, *Pd.*, [French islands !, and Mexico !, to Brazil !].

26. **T. pinnatum,** *Hedw.* *Leaves* cæspitose, *pinnatipartite,* very narrowly decurrent, glabrous, fertile along both margins: *segments* linear-oblong, tapering-bluntish, denticulate, *most cohering by the narrowly margined rhachis, superior* adnate, *usually decrescent,* broadly decurrent: *veins* approximate, forked or 2-partite, intermingled with a few simple ones, *all connected by transverse streaks; indusium sessile,* margined at the base *or sunk:* limb very short, spreading, entire.—*Hedw. Fil. t.* 4. *f.* 1.—T. floribundum, *Humb. sec. Kze.* Neuromanes Hedwigii, *V. d. Bosch.* N. immersum, *V. d. Bosch:* the form with sunk indusia.—1′–2′ high; inferior half-segments 1″–2½″ long, 4‴–6‴ broad, sterile shorter than those of the fertile leaf, less tapering: petiole slender.—HAB. Jamaica (*Hedw.*); Trinidad (*V. d. Bosch*); [Haiti to French islands; Panama ! to Brazil !].

** *Indusia sunk: limb spreading.*

27. **T. fastigiatum,** *Sieb.* *Leaves* approximate ("rarely scattered"), *pinnatipartite, pinnatisect at the base,* not decurrent, hairy: *segments* horizontal or nearly so, *cordate-oblong,* blunt, repand, most approximate with a rounded or truncate sinus, *lower sessile,* often distant: veins forked, lowest dichotomous, uppermost 3–5(–1) fertile, simple: no streaks; *indusium sunk: limb* spreading, *laterally 2-lobed or repand.*—*Hedw. Fil. t.* 4. *f.* 2. *Hook. Grev. Ic. t.* 12: the form with scattered leaves.—T. crispum, *Hedw.* (*non L.*). T. pilosum, *Radd. ex Kze. in Pl. Kappl.* 599. T. plumula, *Pr. !* T. accedens, *Pr.* T. cristatum, *Pr. ex specim. Kegel* (*non Kaulf.*).—Leaves 6″–18″ high, 1″–1½″ broad, often incurved. —HAB. Jamaica (*V. d. Bosch.*); S. Vincent !, *Guild.*; [French islands; Venezuela !, Guiana !, Brazil !].

28. **T. pellucens,** *Kz.* *Leaves* approximate, *pinnatipartite to the base, not decurrent,* glabrescent: *segments* horizontal, *oblong, downward auricled,* blunt, repand, most approximate, lowest subdisant: *sinus between the superior ones rounded, between the lower trun-*

cate: veins lined by larger-areolate tissue, forked or lowest dichotomous, uppermost 7–10(–5) fertile, most of the latter simple: no streaks; *indusium sunk: limb laterally 2-armed.—Kze. Farnkr. t.* 68.—Leaf 10″–12″ high, 2″ broad: rhachis 1‴ broad at the base; column 3–4 times as long as the indusium.—HAB. Trinidad!, *Cr.*, heights of Las Cuevas; [Mexico and Guiana to Peru].

29. **T. crispum,** *L. Leaves* approximate, *pinnatipartite to the base, not decurrent,* hairy or glabrescent: *segments* approximate, horizontal, *oblong, cordate at the adnate base,* blunt, undulate-repand: *sinus truncate:* veins forked, lowest usually dichotomous, uppermost 7–5 fertile, simple: no streaks; *indusium sunk: limb* spreading, *repand.—Plum. Fil. t.* 86.—Leaf 8″–15″ high, 2″ broad, often incurved: rhachis ½‴ broad at the very narrowly margined base; column very long-exserted in the West Indian specimens, but I regard my continental form with the column twice only or thrice as long as the indusium as *β. brevistylum* (syn. *T. cristatum*, Kze. in Kappl. Pl. Surin. 600, non Kaulf.; *T. crispum*, J. Sm. in Seem. Pl. Panam.): *T. Martiusii*, Pr.! in Pl. Kegel. 1054, is intermediate between both.—HAB. Jamaica!, *Pd.*, on decayed trees; Montserrat! [Cuba to French islands!, *β*, Mexico! to Brazil!].

30. **T. Kaulfussii,** *Hook. Grev. Leaves* approximate, *pinnatipartite, narrowly decurrent into the petiole*, hairy: *segments* approximate, horizontal, oblong, bluntish, *serrate:* veins dichotomously divided or forked: no streaks; *indusium sunk, margined at its* spreading, *truncate* limb.—*Hook. Grev. Ic. t.* 10.—Leaf 8″–2″ high, 1½″ broad: serratures usually denticulate again, spreading: rhachis 2‴ broad.—HAB. Jamaica!; S. Kitts, Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad; [Portorico to French islands; Guiana!, equat. Brazil!].

§ 4. *Indusia at the uppermost veinlets or at the veinlets of both margins of the leaf-divisions: limb repand-entire or laterally 2-horned; veinlets or its branches in the ultimate leaf-divisions simple.*—Leaves conform.

31. **T. lucens,** *Sw. Leaves* cæpitose, *pinnatisect*, pilose, *rusty-villous at the petiole and rhachis: segments* spreading, approximate, *pinnatifid, crispate*, adnate at the base, fertile along the margin of most lobes, most subequal: *lobes ovate, blunt, inferior crenate;* veinlets pinnately divided: no streaks; *indusium sunk:* limb laterally 2-horned or subentire.—*Hedw. Fil. t.* 5.—Leaf 6″–2′ high, 1″ broad.—HAB. Jamaica!, *Bancr.*, *Wils.*, on shady soil.

32. **T. crinitum,** *Sw. Leaves* cæspitose, *pinnatipartite, pinnatisect at the base,* hairy: *segments pinnatifid*, spreading, most subequal: *lobes linear, blunt,* uppermost fertile: veinlets simple or forked: no streaks: *indusium wholly sunk:* limb spreading, subentire, ciliate.—*Hedw. Fil. t.* 1.—Leaf 3″–5″ long, 6‴–12‴ broad; column long-exserted, thickish at the summit: but the division of its apex (figured by Hedwig), upon which Presl hazarded a generic separation, does not exist in our specimens.—HAB. Jamaica!, *March*, on trees in the mountains; S. Vincent!, *Guild.*

33. **T. alatum,** *Sw.! Leaves* cæspitose, *pinnatipartite,* narrowly long-decurrent into the slender petiole, tapering toward the summit, hairy: *segments pinnatifid* (or serrate), usually acuminate, spreading, *fertile at the inferior lobes:* superior veinlets simple, inferior pinnately divided: no streaks; *indusium wholly sunk*, or margined at its spreading truncate, or laterally 2-horned limb.—Variable, but the specimens in Swartz's herbarium (one labelled in his own handwriting) belong to *α*, not seen in other collections.

α. Rhachis 1‴ broad: rib narrower than the wings; column 3–4 times as long as the truncate indusium.—*Plum. Fil. t.* 50. *D. Hook. Gen. t.* 31.—6″–10″ high, 2″ broad.

β. attenuatum, Hook.! Rhachis 1‴ broad: rib narrower than the wings; column twice as long as the laterally 2-horned indusium.—*Hook. Spec. t.* 39. *C.*—3″–8″ high, 1″–2½″ broad.

γ. ptilodes, V. d. Bosch! Rhachis ½‴ broad: rib as broad as the narrow wings; column 3–5 times as long as the truncate, or slightly 2-horned indusium.—*Hook. Grev. Ic. t.* 11.—T. alatum, *Hook. Grev.*—8″–12″ high, 3″–4″ broad; inferior leaf-segments often 2-pinnatifid at the base.

HAB. Jamaica !, *Sw.*, in high mountains (α); Dominica !, *Imr.* (β), S. Vincent !, *Guild.* (β, γ); Trinidad; [Cuba !, to French islands !, in moist mountain woods; Venezuela].

34. **T. Bancroftii,** *Hook. Grev.* *Leaves* cæspitose, *deeply pinnatifid, or* 2(-3)-*pinnatifid*, long-decurrent into the short petiole, nearly glabrous: *lobes* spreading, ultimate short, oblong, blunt, *fertile at the summit:* veinlets distant, single in the ultimate lobes, lower usually forked: no streaks; *indusium* and its subentire limb *wholly sunk.—Hook. Grev. Ic. t.* 204.—Leaf 6″–2″ long, 2″–½″ broad, abruptly contracted at the lowest lobes: lobes 8‴–3‴ broad: rhachis 2‴–1‴ broad.—HAB. Jamaica !, *Pd.*, *Wils.*, common in woods, Portland; S. Vincent !, *Guild.*; [Cuba ! to French islands !; Guiana !].

35. **T. sinuosum,** *Rich.* *Leaves* scattered or approximate, *pinnatifid*, long-decurrent into the short petiole, distantly ciliate with long, stellate hairs: *lobes* spreading, obliquely ovate-oblong, or oblong, blunt, repand, or obtusely few-serrate, *fertile at the summit:* veinlets few, simple: no streaks; *indusium* and its repand limb *wholly sunk.—Hook. Grev. Ic. t.* 13. *Kze. Farnkr. t.* 77. *f.* 1.—T. holopterum, *Kze.* (*ib. f.* 1): the form with approximate leaves.—Variable, 2″–12″ high; leaves mostly single along the creeping rhizoma, pellucid: sinus open or narrow, lobes 2‴–1‴ broad.—HAB. Jamaica !, *Pd.*, on tree-ferns; S. Vincent !, *Guild.*; Trinidad !; [Cuba ! and Mexico ! to Brazil ! and Peru !].

§ 5. *Indusia confined to the lowest part of the upper margin of the leaf-segments (rarely appearing on both margins): otherwise like* § 4.

* *Leaf pinnatipartite, subsessile; (indusia sometimes on both margins).*

36. **T. Ankersii,** *Parker.* *Leaves* scattered, *pinnatipartite*, subsessile, glabrous: *segments* approximate, horizontal, *oblong, blunt, obtusely serrate*, fertile usually at the lowest serratures of the upper margin, rarely on both margins: veinlets pinnate, mostly simple: short streaks between them; *indusium wholly exserted:* limb spreading, truncate.—*Hook. Grev. Ic. t.* 201.—Leaf turning blackish in drying, 3″–8″ long, 1″–2″ broad.—HAB. S. Vincent (*J. Sm.*); Trinidad (*V. d. Bosch*); [Panama, Guiana !].

37. **T. brachypus,** *Kze.* *Leaves* scattered, *pinnatipartite*, subsessile, glabrous: *segments pinnatifid*, nearly horizontal; *lobes* spreading, *linear, blunt*, or 2–3-fid, inferior of both margins or lowest only of the upper margin fertile: most veinlets simple: no streaks; *indusium wholly exserted*, stipitate, or margined at the base: limb short, subentire.—*Hook. Grev. Ic. t.* 218.—Leaf 2″–8″ long, 1″–3″ broad.—HAB. S. Vincent !, *Guild.*; Trinidad !, *Pd.*; [Darien !, Guiana !, Brazil !, Peru].

** *Leaf* 2–3-*pinnatipartite, petioled: petiole above and rhachis margined.*

38. **T. pyxidiferum,** *L.* *Leaves* scattered, 2–3-*pinnatipartite*, narrowly decurrent into the short petiole, glabrous: *ultimate segments* linear, emarginate, or blunt, each *with a simple veinlet and 2 long parallel streaks between it and the entire margin; indusium free*, margined at the base, sessile on the upper margin of the primary segments near their base, half as long as the column: limb spreading, subentire.—*Plum. Fil. t.* 50. *E.*—Leaf 5″–1″ high, 12‴–6‴ broad.—HAB. Jamaica (*Sw.*), in mountain-woods; [Cuba ! to Brazil ! and Peru !].

39. **T. brasiliense,** *Desv.* *Leaves* scattered, 2-*pinnatipartite*, very narrowly decurrent into the petiole, glabrous: secondary *segments* few-lobed or pinnatifid, or entire, *ultimate* oblong-linear, emarginate, or blunt, *each with a simple veinlet, but no streaks; indusium margined* to the spreading, subentire limb, usually much shorter than the column, sessile on the lowest inner lobe or on the upper margin of the primary segments near their base.—*Hedw. Fil. t.* 3. *f.* 2. *Hook. Grev. Ic. t.* 206. *Pr. Epimel. t.* 5. *B.*—T. pyxidiferum, *Hook. Grev.* T. emarginatum, *Pr.* T. leptophyllum, *V. d. Bosch.*—Habit of the preceding, but petiole naked below, wing at its summit much narrower (while the rhachis of the primary segments is nearly as broad), and easily distinguished by the wanting streaks, peculiar to *T. pyxidiferum.* Leaf 1″–4″ high, 6‴–12‴ broad: petiole 6‴–12‴ long.—HAB. Jamaica !, *Wils.*; S. Vincent !, *Guild.*; [Cuba ! to French islands !, and Mexico !, to Brazil !].

40. **T. radicans,** *Sw.* *Leaves* scattered, 3–4-*pinnatipartite*, longer than the petiole, narrowly decurrent, glabrous: *ultimate segments* oblong-linear emarginate, or blunt, with a

simple, or, if emarginate, forked veinlet, the lower inferior *secondary ones fertile between the 2 lowest segments of the inner margin; indusium margined*, much shorter than the column: limb short, repand, or slightly 2-horned.—*Hedw. Fil. t.* 6.—T. scandens, *Hedw.* (*non Hook.*). T. ambiguum, *Sieb.* T. brevisetum, *R. Br.* (*T. europæum*, Sm.): a short-lobed form with the column less developed, from which, following V. d. Bosch, I exclude *T. speciosum*, W. (Canary Islands!), for its longer, not margined petiole.—Leaf 6″–1½′ high, 2″–6″ broad: petiole 1″–3″(–6″) long.—Hab. Jamaica!, *Wils.*, *Pd.*, on trees; [Cuba! to French islands!; Mexico! to Brazil!; Pacific islands!, East Indies!; *T. brevisetum*: Azoric islands!, Madeira, and Ireland].

41. **T. rigidum,** *Sw.* *Leaves* cæspitose, 3-*pinnatipartite*, decurrent by a very narrow line, glabrescent (or hairy at the rhachis): *tertiary segments linear, acuminate*, with a simple veinlet, *the lowest of the upper side fertile near the base of the inner margin*: no streaks; *indusium exserted, substipitate*: limb short, crenulate-repand.—*Hedw. Fil. t.* 2. —Leaf 6″–1½′ high, 2″–3″ broad.—Hab. Jamaica!, *Pd.*, on tree-roots; Dominica!, *Imr.*, Barbadoes!, *Parker*: [all tropical countries].

42. **T. Prieurei,** *Kze.* *Leaves* cæspitose, 3-*pinnatipartite*, decurrent by a very narrow line, glabrescent: *tertiary segments inferior pinnatifid–2-fid, superior and quarternary ones linear, bluntish*, suberect, with a simple veinlet, *the lowest of the upper side fertile near the base of the inner margin*: no streaks; *indusium exserted, substipitate*: limb short, subentire.—*Hook. Spec. t.* 40. *C.*—T. anceps, *Hook.*—Leaf 1½′–2′(–6″) high, 5″–8″(–3″) broad.—Hab. Dominica!, *Imr.*; Trinidad!, *Pd.*, in woods; [French islands! to Peru! and Brazil!].

*** *Leaf 2-pinnatisect: petiole and rhachis not margined.*

43. **T. scandens,** *L.*, *Sw.*, *Hook.* (*non Kze.*). *Leaves* scattered, 2-*pinnatisect*, hairy: segments spreading, distant, secondary ones pinnatipartite, acuminate, *tertiary pinnatifid*, or few-serrate, bluntish: *lower lobes of the upper side fertile on the inner margin*: veinlets often forked: no streaks; *indusium sunk*: limb short, truncate.—*Sl. t.* 58. *Pr. Epimel. t.* 6. *Kze. Farnkr. t.* 130.—T. Sloanei, *Kze.* T. macroclados, *Kze.* T. Lindeni, *Pr.* Linnæus's authority for *T. scandens* (*exclus. syn. Plum.*) is clear from his words: "urceoli supra axillas."—Rhizoma "scandent;" leaf 8″–2′ high, 3″–6″ broad.—Hab. Jamaica (*Sl.*, *Pr.*), in the Blue Mountains; [Cuba!, Haiti].

44. **T. trichoideum,** *Sw.* *Leaves* delicate, scattered, or approximate, 2-*pinnatisect*, glabrous: *segments divaricate-spreading*, secondary ones pinnatipartite, *tertiary* distant, *narrowly cuneate-linear, emarginate, or bifid, fertile on special pedicels* above the base of the inner margin: veinlets simple in the ultimate lobes: no streaks; *indusium free*: limb short, truncate.—*Hedw. Fil. t.* 3. *f.* 1. *Schk. Crypt. t.* 134. *Hook. Grev. Ic. t.* 199. *Pr. Epimel. t.* 8. *A.*—T. capillaceum, *L.* (*Plum. Fil. t.* 99. *D.*: Davallia, *W.*): excluded by Swartz, who however took the badly-figured segments for terminal sori. T. tenellum, *Hedw.* T. cuneiforme, *Schk.* T. angustissimum, *Pr.*—Leaf 2″–10″ high, cut into hair-shaped segments.—Hab. Jamaica!, *Wils.*, *Pd.*, on fern-stems, in moist woods, at 5000′ alt.; [Mexico! to Brazil!].

§ 6. *Indusium-limb spreading, dorsally 2-lipped.*—Low ferns; leaves conform, scattered along the creeping rhizome, pinnatifid–entire (*Didymoglossa*, Desv.).

45. **T. Kraussii,** *Hook. Grev.* *Leaf deeply pinnatifid, or 2-pinnatifid*, shortly petioled, or subsessile, bearing cilia chiefly in the sinus of the lobes: *lobes* spreading, oblong-linear, blunt, *sinuate-repand*: *veins pinnately divided with alternate branches*: *veinlets distant*: streaks few, short; *indusium sunk* into the lobes: limb 2-lipped to the base: column twice as long as the indusium.—*Hook. Grev. Ic. t.* 149.—T. reptans, *Kze.* (*ex parte*). T. pinnatifidum, *V. d. Bosch!*: the 2-pinnatifid form.—Leaf 1″–2½″ long, almost pinnatipartite.—Hab. Jamaica!, *Pd.*, *Wils.*, on trees; Dominica, S. Vincent; Trinidad!, *Cr.* (*T. pinnatifidum*, V. d. Bosch); [Cuba! to French islands!; Guiana! to Peru!].

46. **T. pusillum,** *Sw.* *Leaf irregularly pinnatilobed, or subentire*, cuneate-oblong, or heteromorphous, petioled (or subsessile), *ciliate* with stellate hairs, *densely striated between the distant*, alternate, *simple veins*, the latter connected by a juxtamarginal streak; *indusium margined*, or *sunk below the summit*: *limb* free, 2-*lipped to the base*: column exserted.—

Hedw. Fil. t. 3. *f.* 5. *Pr. Hymenoph. t.* 9.—Hemiphlebium, *Pr.*—Leaf 4‴–8‴ long, tapering into the short petiole.—HAB. Jamaica !, *Wils.*; Trinidad !, *Pd.*, *Lockh.*, on trees, near the summit of Mount Tocuche ; [New Granada !, Peru !, Brazil ! ; often growing intermingled with *T. muscoides*].

47. **T. muscoides,** *Hook. Grev.*, *Sw. Fl.* (*non ej. Synops.*). *Leaf cuneate-oblong, or obovate, bluntly sinuate,* petioled (or subsessile), *glabrous, striated between the distant,* alternate, *forked veins,* the later connected by a juxtamarginal streak; *indusium included: limb very shortly 2-lipped,* very shortly exserted : column shortly exserted.—*Sl. t.* 27. *f.* 1 : only the inferior larger leaves. *Hook. Grev. Ic. t.* 179. *Pr. Hymenoph. t.* 6. *B.*—T. Hookeri, *Pr.* Microgonium Berteroanum, *Pr.*—Leaf 12‴–4‴ long, 6‴–3‴ broad, rarely larger : petiole shorter than the blade.—HAB. Jamaica !, *Al.*, *Wils.*, on trees ; Dominica !, *Imr.*, S. Vincent ; Trinidad !, *Cr.*; [Cuba ! ; Venezuela !, Guiana !, Brazil !, Peru !].

48. **T. apodum,** *Hook. Grev. Leaf cordate-roundish, pinnatilobed and crenate-sinuate, sessile,* or subsessile, glabrous with a few marginal hairs, *remotely and shortly striated along the margin between the distant, simple, pinnate veins: midrib 3-partite; indusium exserted,* margined below towards the base : limb deeply 2-lipped : column long-exserted.—*Hook. Grev. Ic. t.* 117.—T. hymenoides, *Hedw.* (*Fil. t.* 3. *f.* 3) ? : too badly figured and described to merit restoration. T. muscoides, *W.*, *Kze.*, *Sw. Synops.* (*non Fl. Ind. Occ.*) : Swartz not having distinguished the allied species, his name comprises *T. muscoides, apodum,* and *sphenoides.* 1° The description of Fl. Ind. Occ. ("urceoli inclusi," p. 1726, repeated in contradistinction of *T. reptans,* var., p. 1728) can only be referred to *T. muscoides,* Hook. 2° The diagnosis of Synops. Fil. ("urceoli exserti," p. 141) belongs partly (as far as it agrees with Hedwig's synonymy), to *T. apodum,* verified by Kunze in Willd. Herb. 3° The quotation of Sloane (t. 27. f. 1), insisted upon by a special observation (Fl. p. 1726) is remarkable as proving a confusion of *T. muscoides* and *T. sphenoides,* which both (growing intermingled) are well to be recognized in that figure, though the pinnate veins of the larger leaves (*T. muscoides*) by the artist are wrongly transferred to the rest (*T. sphenoides*). Thus it appears much more advisable to preserve the names employed for the excellent figures of Hook. and Grev., than, as Presl and Kunze have proposed, to restore Swartz's authority from his specimens, which in the case of *T. muscoides* prove to be in contradiction with his own primary description.—Leaf 3‴–6‴ diam. : all lobes and crenatures rounded.—HAB. Jamaica (*Sw.*) ; Barbadoes !, *Parker*; [Cuba ! ; Mexico to Venezuela].

49. **T. reptans,** *Sw.* (*exclus. var.*). *Leaf cuneate-obovate, pinnatilobed* (or spathulate, subentire), *shortly petioled,* ciliate with stellate hairs : lobes blunt, entire : *midrib excurrent : veins and veinlets pinnate, both arched towards the margin, the latter approximate,* often forked above ; indusium margined beyond the lobe : limb 2-lipped to the base.—*Hedw. Fil. t.* 3. *f.* 4.—Kunze (Bot. Zeit. 5. p. 279) is so far correct in his observations, that this species is distinguished from his *T. sphenoides* by pinnate nervation (indeed together with the tapering, but excurrent, strong midrib the only clear difference of both species, which however, as veins and veinlets run in a flabellate manner towards the margin, possibly may prove fallacious) : but at the same time he has confounded *T. reptans* with two other species, viz. *T. quercifolium,* Hook., and *T. Kraussii,* Hook. Grev. (T. reptans, *Kze. ! in Pl. Kegel.*), which both are deprived of the numerous, densely approximate veinlets, so characteristic for *T. reptans* and *T. sphenoides.*—Leaf 12‴–4‴ long, 5‴–1‴ broad, cuneate or tapering at the base.—HAB. Jamaica !, *Wils.*; [Cuba (Pœpp.) ; Venezuela (*Kl.*)].

50. **T. sphenoides,** *Kze. Leaf roundish, or obovate, cuneate or contracted at the base,* sinuate-lobed or repand, ciliate with stellate hairs : *veins flabellate-dichotomous, approximate, midrib distinct below the middle : petiole shorter than or as long as the blade*; indusium margined beyond the blade : limb 2-lipped to the base.—*Hook. Grev. Ic. t.* 32. *Kze. Farnkr. t.* 88. *f.* 2.—T. reptans, *Hook. Grev.* T. reptans, *var.*, *Sw. Fl.* (*p.* 1728).—Leaf 3‴–6‴(–8‴) long, 3‴–5‴ broad : petiole 3‴–1‴ long.—HAB. Jamaica !, *Pd.*, *Wils.*, on trees ; S. Vincent !, *Guild.*, Barbadoes ; [Cuba ! to French islands ! ; Venezuela ! to Brazil ! and Peru].

51. **T. punctatum,** *Poir. Leaf roundish, rounded or subcordate at the base,* sinuate-crenate, or repand, glabrous, or with a few stellate hairs at the margin, *remotely striated between the flabellate-forked, distant veins : midrib short, or none : petiole very short, or*

none; indusium margined beyond the blade: limb shortly 2-lipped.—*Hook. Grev. Ic. t.* 236.—Leaf 2‴–6‴ diam.; petiole less than 1‴ long.—HAB. Jamaica!, *Pd.;* Trinidad!, *Lockh., Cr.,* on trees, growing often intermingled with *T. muscoides;* [Cuba to French islands!; Guiana!, Peru!].

52. **T. membranaceum,** *L. Leaf cuneate-roundish, or obovate,* extrorsely lacerate-denticulate or lobed, glabrous, *bearing marginal 2-lobed–peltate scales, striated between the flabellate-forked veins: no midrib:* petiole very short, black-villous; indusium included: limb shortly 2-lipped.—*Plum. Fil. t.* 101 *.A. Kze. Farnkr. t.*88. *f.* 1.—Leaf 6‴–2½″, petiole 1‴–2‴ long.—HAB. Jamaica!, *Shepherd,* on moist rocks; S. Kitts, Dominica!, *Imr.,* S. Vincent!, *Guild.;* Trinidad; [Cuba!, to French islands!; Darien!, Venezuela!, Guiana, Peru!].

9. HYMENOPHYLLUM, *Sm.*

Sori marginal: indusium dorsally 2-lipped: tube short, or none: column included, rarely exserted, inserted at the summit of a simple or shortly 2-fid veinlet, fertile to the summit or naked below.—*Habit of* Trichomanes; leaves *mostly divided and petioled, scattered along a filiform rhizome, turning usually brown in drying;* segments *with a simple vein.*

I omit several West Indian species of *Hymenophyllum* and a few of *Trichomanes,* named by V. d. Bosch upon the same materials as I had before me, and published lately after his death (Nederl. Kruidk. Arch. 1863); for from the descriptions they are apparently not well founded.

* *Leaf-segments glabrous.*

53. **H. asplenioides,** *Sw. Leaf* oblong-lanceolate, *pinnatifid, cuneate at the base,* glabrous: lobes oblong, blunt or emarginate, entire, flat; *indusium* terminal, 2-*lipped to the base:* valves roundish, entire.—Leaf 1″–2″ long, 4‴–6‴ broad: petiole 6‴–2″ long.—HAB. Jamaica!, *Bancr.,* on trees, in high mountains; [Cuba! to Brazil!].

54. **H. abruptum,** *Hook. Leaf* ovate, *deeply pinnatifid, not decurrent,* glabrous: lobes oblong, retuse or 2-fid, entire, flat; *indusium* terminal, 2-*lipped to the middle,* sunk below the broadly rounded, entire lips.—*Hook. Spec. t.* 31. *B.*—Leaf 8‴–1½″ long, 6‴–12‴ broad: petiole 6‴ long.—HAB. Jamaica!, *Wils., Pd.;* [Cuba!: intermingled with *H. brevipes,* Kze. (Wr. Cub. 958, leaf palmatipartite), and with *H. brevistipes,* Liebm. (Wr. Cub. 1068, leaf 2-pinnati-palmatifid); [Venezuela!, equat. Brazil].

55. **H. polyanthos,** *Sw. Leaf 2–3-pinnatipartite* with the ultimate segments lobed, narrowly or not decurrent, glabrous: *lobes* shortly oblong, blunt, *entire, flat; indusium* terminal, 2-*lipped* to the subtruncate *base or sunk below the middle:* lip ovate, blunt, or roundish, entire.—*Hook. Grev. Ic. t.* 128.—H. Grevilleanum, *Pr.*—Variable, 4″–12″ high, 1″–2″(–6‴) broad.

α. Leaf long-decurrent; indusium free, subtruncate at the base: lips ovate, blunt.

β. *Schomburgkii,* Pr. Leaf long-decurrent; indusium free, except at the slightly cuneate base: lips roundish.

γ. *clavatum,* Sw. Leaf not decurrent; indusium free, except at the slightly cuneate base: lips ovate or roundish.—*Hook. Grev. Ic. t.* 127.—H. abietinum, *Hook. Grev.* H. jalapense, *Cham., Schlecht.!:* except some specimens passing into α. H. fraternum, *Pr., sec. V. d. Bosch.*

δ. *Kobautianum,* Pr. Leaf long-decurrent; indusium half-sunk, cuneate at the base: lips half-round.—H. decurrens, *Sieb. Mart.* 250. H. protrusum, *Hook.* (*Spec. t.* 37. *B*): a form with the column at length exserted.

HAB. Jamaica!, *Pd.,* on trees and rocks in the mountains; Dominica!, *Imr.;* S. Vincent!, *Guild.;* [Cuba! and Mexico! to Brazil!; East Indies! to New Zealand!].

56. **H. undulatum,** *Sw. Leaf* linear-oblong, 2–3-*pinnatipartite,* shortly or not decurrent, glabrous: *rhachis crispate-winged* or naked at the base: *lobes* oblong, blunt, *entire, crispate-undulate; indusium* terminal, 2-*lipped to near the slightly cuneate base:* lips broadly rounded, entire, or repand.—*Hook. Ic. t.* 964: the form with 3-pinnatipartite leaves.—H. flaccidum, *V. d. Bosch!*—2″–6″ long, flaccid, pendulous, shortly petioled, 4‴–12‴ broad.—HAB. Jamaica!, *Menzies,* in high mountains, in ravines; [Cuba! and Mexico! to Peru!].

57. **H. axillare,** *Sw.* "*Leaf* lanceolate, 2–3-*pinnatipartite*, very narrowly decurrent, glabrous: *rhachis margined: lobes* oblong-linear, blunt or subemarginate, *entire, lowest fertile;* indusium as broad as its leaf-lobe: lips roundish, entire."—"6″ high, suberect, shortly petioled."—HAB. Jamaica (*Sw.*), on trees in the highest mountains.

58. **H. apicale,** *V. d. Bosch.* "*Leaf* linear-oblong, 3-*pinnatipartite*, not decurrent, glabrous: *rhachis naked or margined on one side* by the shortly decurrent primary segments: *lobes* oblong-linear, emarginate, *entire, terminal sterile;* indusium terminal, narrower than its leaf-lobe, 2-lipped to near its shortly cuneate base: lips broadly rounded, entire."—*Hook. Grev. Ic. t.* 124.—H. axillare, *Hook. Grev.*—"3″–5″ high, flaccid, pendulous, shortly petioled, 6‴–12‴ broad."—HAB. Jamaica!, *Pd.*, *Wils.*, in the Blue Mountains; S. Vincent; [Haiti!].

59. **H. fucoides,** *Sw.* *Leaf* oblong-lanceolate, 2-*pinnatipartite*, very narrowly decurrent, glabrous: rhachis narrowly margined, glabrescent, or slightly hairy: *lobes* oblong, blunt, *serrulate*, flat, inferior often 2-fid; *indusia confined to the lowest part of the upper margin of the primary leaf-segments, contracted at the base, 2-lipped to the middle: lips* ovate-deltoid or ovate-oblong, *serrate*.—H. blepharodes, *Pr.*—2″–8″ high, 1″ broad, erect, shortly petioled.—HAB. Jamaica!, *Pd.*, on trees in high mountains; [Cuba! and Mexico! to Brazil!].

** *Leaf-segments ciliate.*

60. **H. hirsutum,** *Sw.* *Leaf* short, oblong, *deeply pinnatifid or 2-pinnatifid*, cuneate at the base, *not decurrent, pilose* and ciliate with stellate hairs: lobes oblong, blunt, entire, flat; indusium terminal, orbicular, 2-lipped to the middle, ciliate.—*Hook. Grev. Ic. t.* 84: the pinnatifid form.—Trichomanes, *L.* H. latifrons, *V. d. Bosch.* H. Cruegerii, *C. Müll.*: a form with the hairs confined to the rhachis and leaf-margin (*Fendl. Venez.* 455).—Pendulous, 2″–4″ long, 4‴–8‴ broad: petiole short, hair-shaped.—HAB. Jamaica!, *Pd.*, *Wils.*, on trees in high mountains; Trinidad; [Cuba! to French islands!; Mexico! to Brazil!].

61. **H. ciliatum,** *Sw.* *Leaf* oblong, 2(–3)-*pinnatipartite* with a broad rhachis, *long-decurrent, ciliate* with stellate hairs: segments oblong, blunt, entire, flat, primary ones subdistant; indusium terminal, orbicular, 2-lipped to near the rounded base, ciliate.—*Hook. Grev. Ic. t.* 35.—H. remotum, *V. d. Bosch.*—Erect, 1½″–4″ long, 8‴–12‴ broad: petiole above and rhachis ¾‴ broad.—HAB. Jamaica (*Sw.*), on trees in the mountains; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! and Mexico! to Brazil!].

62. **H. hirtellum,** *Sw.* *Leaf* ovate or ovate-oblong, 3-*pinnatipartite, narrowly and shortly decurrent, hairy* on the ribs, and ciliate with stellate hairs: segments oblong-linear, bluntish, entire, flat; indusium terminal, orbicular, 2-lipped to about the middle, ciliate.—*Hook. Spec. t.* 31. *D.*—Erect, 4″–6″ high, 1″–1½″ broad: petiole 1″–2″ long, ½‴ broad at the summit, not margined below.—HAB. Jamaica!, *Pd.*, *Wils.*, on wet banks in the mountains; S. Vincent; [French islands: Mexico].

63. **H. lineare,** *Sw.* *Leaf* flaccid, oblong-linear, *pinnatisect with pinnately* 5–3-*partite segments*, ciliate with stellate hairs: primary segments subdistant, superior decurrent, secondary linear or oblong-linear, blunt, entire, flat; indusium terminal, orbicular, 2-lipped to about the middle, ciliate.—*Hook. Grev. Ic. t.* 196.—H. trifidum, *Hook. Grev.* H. elegans, *Spreng.*—Hanging, 2″–10″ long, 8‴–12‴ broad: petiole short, usually hairy.—HAB. Jamaica!, *Macf.*, *Pd.*, on moist banks, rare; [French islands!; Venezuela! to Peru! and Brazil!].

64. **H. elegantulum,** *V. d. Bosch.* "*Leaf* flaccid, oblong, *pinnatisect with 2-pinnatifid segments, pubescent*, and ciliate with stellate hairs: primary segments distant, not decurrent, tertiary lobes short, blunt, entire, flat; indusium terminal, cuneate-orbicular, 2-lipped to the middle, densely pilose."—*Hook. Spec. t.* 33. *A.*—H. pulchellum, *Hook.* (*non Schlecht. sec. V. d. Bosch.*)—"Pendulous, sometimes 1′ long."—HAB. Jamaica (*Macf.*); [Quito].

65. **H. sericeum,** *Sw.* *Leaf* flaccid, long, oblong-linear, *pinnatipartite with pinnatifid segments*, pinnatisect below, *densely pubescent* and ciliate with rusty, stellate down: superior segments narrowly decurrent, *lobes* oblong, blunt, flat, *crested with keeled veins*, inferior emarginate with a forked veinlet; indusium terminal, orbicular, 2-lipped to the middle, densely pilose.—*Plum. Fil. t.* 73.—Hanging, 1′–2′ long, 1″ broad, shortly petioled.

—HAB. Jamaica!, *Pd.*, on trees in high mountains, S. Georges; Trinidad; [Cuba! to French islands!; Mexico! to Peru!].

TRIBE V. *POLYPODIEÆ.—Sporangia with a vertical or oblique, usually incomplete ring, transversely dehiscent.*

Series 1. **Pterideæ.**—*Sori confined to the marginal extremity of veins or their marginal anastomosis.*

10. DICKSONIA, *L'Hér.*

Sori inserted into the summit of a veinlet: indusium free upon the leaf-margin, cup-shaped or 2-lipped*:* receptacle prominent.—Leaves *usually much divided:* veinlets *free, pinnate.*

* *Most veinlets fertile.*

66. **D. coniifolia,** *Hook.* Leaves 3-pinnatisect, glabrous: tertiary segments pinnatipartite, shortly petiolulate, distant, narrowly acuminate, quaternary inferior ones pinnatifid, uppermost and lobes of the inferior dentiform, the latter dilated into the terminal sorus; *indusium large, dorsally 2-lipped, at length repand, shallow,* subcoriaceous, brownish.—*Hook. Spec, t.* 24. *A.*—Primary segments 1½′ long, 10″–12″ broad, quaternary inferior 6″–8″ long, connected by the narrow wing of the rhachis; indusium 1‴ broad.—HAB. Jamaica!, *Al.*, peak of Blue Mountains; [Guadeloupe!; Venezuela!; New Granada!].

** *Lowest anterior veinlet fertile: all sori approximate to the sinus.*

67. **D. dissecta,** *Sw.* (*non Hook.*). Leaves 2-pinnatisect, glabrous: secondary *segments* pinnatipartite, *tertiary pinnatifid or lower pinnatipartite,* their fertile lobes with a single sorus near the base of the upper margin: *terminal sterile lobe subtruncate-rounded, crenate; indusium hemispherical-cup-shaped, reflexed,* submembranaceous, entire at the margin.—*Plum. Fil. t.* 30.—D. adiantoides, *W.*, *Kze.!* (*non Hook.*). D. cicutaria, *α*, *Hook.!* (*non Sw.*).—Stout, herbaceous; primary leaf-segments often 2′ long, 6″–8″ broad, ultimate lobe of the tertiary segments about 3‴ diam.; indusium ⅓‴ diam.

α. Terminal lobe of the tertiary leaf-segments rounded, its crenatures pointed: lowest superior lobe somewhat larger than the rest.—D. tenera, *Pr.*: a form with the lobes of *α*, the crenatures of *β*.

β. ordinata, Kaulf. Terminal lobe of the tertiary leaf-segments truncate, its crenatures unequal, blunt: lateral lobes subequal: rhachis puberulous beneath.—*Kze. Farnkr. t.* 106. —D. cornuta, *Kaulf.* (D. Hookeriana, *Kl.!*; D. dissecta, *Schk. t.* 130. *b. infra*): a form with more pinnatipartite tertiary segments.

HAB. Jamaica!, *Pd.*, *Wils.*, *Wiles*, in woods; [Cuba! to French islands!; Mexico! to Brazil!].

68. **D. cicutaria,** *Sw.* Leaves 2-pinnatisect, glabrous: secondary *segments* pinnatipartite, tapering above, *tertiary lower pinnatipartite, upper ones pinnatifid,* their fertile lobes with a single sorus on the upper margin, the lowest superior larger and usually with 2–3 sori on both margins: *terminal sterile lobe shortly obovate, dentate at the summit; indusium campanulate-cup-shaped, reflexed,* submembranaceous, entire at the margin.—*Hook. Spec. t.* 26. *C.*—D. apiifolia, *Hook.* (*non Sw.*), *Eat. Pl. Fendl.!*—Distinguished from the preceding by the sharply pointed teeth at the summit of the leaf-segments, and the indusium a little longer than broad. Primary segments much smaller, the inferior about 1′ long, 3″–4″ broad; indusium ⅓‴ long.—HAB. Jamaica (*Sw.*, *Hook.*), in the mountains; [Venezuela! to Peru!].

69. **D. rubiginosa,** *Kaulf.* Leaves 2-pinnatisect, hairy on the ribs beneath: *secondary segments 2-pinnatipartite,* acuminate, tertiary bluntish, *quaternary dentate, or lower dentate-pinnatifid,* fertile near the base of the upper margin of their teeth, the lower superior lobe larger, with 5–3 sori, the following with 3–1: terminal *sterile lobe* small, *few-dentate; indusium minute,* hemispherical-cup-shaped, *reflexed,* entire at the margin.— —*Hook. Spec. t.* 27. *A.*—D. dissecta, *Hook.*—Primary pinnæ about 1½′ long, 5″–8″ broad; indusium ⅙‴ diam.—HAB. Jamaica!, *Pd.*, *Wiles*, *Wright*, *Al.*: [Portorico!; Mexico! to Brazil!].

D. apiifolia, Sw. (Jamaica), is still doubtful. Swartz says it resembles very much *D. squarrosa*, Sw., and none of our West Indian *Dicksoniæ* has any resemblance with Forster's specimen; but this would answer to *D. Sellowiana*, Hook. (Ecuador, *Spruce*), and what Kunze (Bot. Zeit. 3. p. 817) says of an original specimen of *D. apiifolia*, agrees with this species ("leaves rigid, pale beneath, ultimate segments sharply serrate").

11. DAVALLIA, *Sm.*

Sori roundish or cup-shaped, inserted into the summit of a veinlet or between its forking, at or near the flat leaf-margin: indusium dimidiate-inferior and laterally adnate, open at the summit.—Veinlets *free, rarely anastomosing at the indusium.*

Sect. 1. MICROLEPIA, *Pr.—Sori at the summit of a simple veinlet, dorsally covered by a membranaceous, rarely herbaceous indusium.*—Veinlets pinnate.

70. **D. adiantoides,** *Sw. Leaves* 2-pinnatisect, *glabrous: secondary segments* inferior pinnatipartite, *their divisions* falcate-lanceolate, serrate, *broadly decurrent to the next*, approximate, *superior pinnatifid* with the lobes most subtruncate: most serratures fertile; *indusium* sunk into the margin, cup-shaped, *herbaceous: aperture oblique* by the more produced subdenticulate leaf-serrature.—*Plum. Fil. t.* 7.—Dicksonia Plumieri, *Hook.* —Arborescent (Plum.): primary segments 1′–1½′ long, 8″–10″ broad, tertiary inferior about 1″ long, 4‴–3‴ broad.—HAB. Jamaica!, *Wiles, Wright*; Dominica!, *Imr.*; [Cuba! to French islands!].

71. **D. inæqualis,** *Kze.! Leaves* 3-2-pinnatisect, *glabrous: segments* pinnatipartite, *with a narrowly margined rhachis*, serrate at the acuminate summit, *their divisions* and the superior segments ovate-lanceolate, blunt, *pinnatifid-serrate* with the lowest superior lobe more produced, *fertile below most sinus; indusium* cup-shaped, *membranaceous*, little *exceeded by the truncate sinus of the leaf-margin.—Hook. Spec. t.* 57. *B.*—Primary segments about 1½′ long, 8″–12″ broad, ultimate 8‴–10‴ long, 3‴–4‴ broad.—HAB. Jamaica!, *Wiles, Wils.*, in woods; [Venezuela! to Brazil! and Peru!].

72. **D. jamaicensis,** *Hook.! Leaves* 2-pinnatisect, *pubescent beneath: secondary segments* pinnatipartite, shortly acuminate, *tertiary* ovate-oblong, pinnatifid-few-serrate with broad, bluntish lobes, *narrowly decurrent to the next, fertile below most sinus; indusium* half-round, *membranaceous, distant from the acute sinus of the leaf-segment.*—D. polypodioides, *Eat. Pl. Wr.! (non Sw.)*. Microlepia Antillarum, *Mett. ap. Eat.*—Primary segments 1½′–6″ long, 3″–2″ broad, ultimate inferior usually 6‴–4‴ long, 3‴–2‴ broad.—HAB. Jamaica!, *Macf., Bancr., Wiles, Pd.*, in moist woods; [Cuba!; New Granada!; Brazil!].

Sect. 2. STENOLOMA, *Fée.—Sori at the summit of an expanded, rarely several anastomosing veinlets, sunk into the apex of narrow or cuneate leaf-segments, the firm indusium forming their dorsal covering.*—Habit of *Lindsaya*: leaf-ribs forked-dichotomous or simple in the ultimate segments.

73. **D. clavata,** *Sw.* Slender, *erect, unarmed*; leaf 3-pinnatisect: *segments narrowly linear-cuneate*, entire, denticulate at the subtruncate or rounded summit, glabrous: their single rib once- or twice-forked, rarely simple; *indusium* half-round or transversely oblong, as broad as or little broader than the leaf-segment, equalling its summit, *supported by anastomosing or shortly-forked veins.—Plum. Fil. t.* 101. *b. Schk. Crypt. t.* 128.—Adiantum, *L.* Lindsaya, *Bernh.* D. venusta, *Schk.* D. tenuifolia, *Sieb. Mart.*: *D. tenuifolia*, Sw., Kaulf. (non Hook.), from Forster's specimen of his *Ad. clavatum*, is a form of it with all segments narrow, 2-ribbed, while *D. tenuifolia*, Hook.! is *D. cuneiformis*, Sw.! (in Forster's collection).—This singular species approaches *Lindsaya* by the anastomosis of veinlets along the bases of the indusium, while from the single ribs of narrower leaf-segments it would be a true *Davallia*: this anomaly might be interpreted as a cohesion of 2 or 4 sori in the former instance, as has been done by Mettenius with respect to the allied *D. cuneiformis*; but as there is no structural difference between *D. clavata* and the cuneate-leaved *Lindsayæ* (*e. g. L. microphylla*, Sw.), I regard the latter (*L.* § 2, Mett.) as congeners of *Davallia.*—1′(–2′) high, divided from about the middle; segments 4‴–2‴ long, 1‴–¼‴

broad.—HAB. Bahamas!, *Swains.*; Jamaica!, *all coll.*, on wet rocks; [Cuba! to French islands!; Pacific islands!].

74. **D. fumarioides,** *Sw.* *Scandent,* diffuse, *prickly;* leaf submembranaceous, glabrous, 3–2-pinnatisect: *segments* pinnatipartite, *ultimate 2–3-partite with cuneate,* emarginate, or *bifid divisions,* the latter with a simple or forked rib, oblong, blunt, entire; *indusium* obversely half-round, *as broad as the leaf-division,* equalling its summit, *supported by an expanded, simple vein.—Schk. Crypt. t.* 129. *inf.*—Ultimate segments 2‴ long, its divisions spreading, 1‴ broad at the summit.—HAB. Jamaica!, *Macf.*, *Al.*, *Wiles,* on dry hills; [Cuba!].

75. **D. aculeata,** *Sm.* *Scandent,* diffuse, *prickly;* leaf herbaceous, glabrous, 3–2-pinnatisect: *segments* inferior pinnatipartite, *ultimate cuneate-roundish, unequally 2–3-lobed:* lobes blunt or bluntly emarginate, shortly obovate, entire, with a twice- or more forked rib; *indusium* roundish, *exceeded in breadth by the leaf division,* equalling its summit, *supported by an expanded, simple vein.—Sl. t.* 61. *Hook. Spec. t.* 54. *B.*—Adiantum, *L.*—Habit of the preceding: growth indefinite: ultimate segments little larger, but more roundish above the broadly cuneate base.—HAB. Jamaica!, *Bancr.*, in dry savannahs; Dominica!, *Imr.*; [Cuba! to Guadeloupe!].

12. SACCOLOMA, *Kaulf.*

Sori half-roundish, in a series lining the leaf-margin, inserted into the summit of a veinlet or between its forking: indusium inferior, dimidiate, reniform, laterally free.—Veins *forked or simple, anastomosing between the sori or free.*

76. **S. elegans,** *Kaulf.* *Leaf* tall, pinnatisect, thin: *segments lanceolate, entire, below the serrate, narrowly acuminate* apex: *veins* simple or 2-partite, closely subtransverse, *anastomosing between the approximate sori,* and sending short, rectangular branchlets into the membranaceous, narrow, entire, fertile margin.—*Hook. Gen. t.* 58. *f.* 1-4. *Kze. Farnkr. t.* 41.—Davallia Saccoloma, *Spreng.*—Climbing to the height of 20′ (*Pd.*); leaf (the petiole included) about 6′ long: segments 8″–15″ long, 1″–2″ broad.—HAB. Jamaica!, *Pd.*, Westmoreland, S. Georges; Trinidad!, *Cr.*, Tocuche; [Panama! to Brazil!].

77. **S. Imrayana,** *Hook.* *Leaf* pinnatisect, herbaceous: *segments oblong-lanceolate* or *ovate-oblong, blunt* or bluntish, *crenate above the cuneate base: veins* forked, distantly ascending, *free,* excurrent into the indusium, not into the leaf-margin; *sori somewhat distant,* each below a crenature.—*Hook. l. c. f.* 5, 6; *Spec. t.* 49. *A.*—Petiole brown-shining, 8″–12″ long; leaf 5″–8″, segments 1″–2″ long, the latter 6‴–8‴ broad.—HAB. Dominica!, *Imr.*; [Guadeloupe!].

13. LINDSAYA, *Dry.*

Sori linear, lining the flat leaf-margin, inserted into a special anastomosis of veinlets: indusium dimidiate, inferior, externally open.—Most pinnate leaf-segments *subequal, and* veins *dichotomous in the West Indian species.*

78. **L. trapeziformis,** *Dry.* Leaf 2-pinnatisect, membranaceous: *segments dimidiate-oblong,* blunt or bluntish: inferior and basilar *margin* truncate, *superior curved,* fertile: *petiole 4-sided;* sori continuous, extending to the summit.—*Hook. Gen. t.* 63. *A.*—Primary segments 6″–12″ long, 1½″–1″ broad.—HAB. Jamaica!, *Lambert;* Dominica!, *Imr.*; Trinidad!, *Lockh.*; [Cuba! to Brazil!; East Indies!].

79. **L. quadrangularis,** *Radd.* Leaf 2-pinnatisect, membranaceous: *segments dimidiate-oblong,* blunt: inferior and basilar *margin* truncate, *superior straightish,* fertile: *petiole 4-sided;* sori interrupted, extending to the summit (or continuous).—*Radd. Fil. Bras. t.* 74.—L. Klotzschiana, *Moritz.*—More slender than the preceding; primary segments 4″–8″ long, 8‴–10‴ broad.—HAB. Dominica, S. Vincent!, *Guild.*; [Guadeloupe!; Panama! to Brazil!].

80. **L. guianensis,** *Dry.* *Leaf* 2-pinnatisect, submembranaceous, somewhat *flexuose: segments dimidiate-ovate,* rounded at the top, cuneate at the base: margins straightish or slightly curved, superior fertile: *petiole cylindrical;* sori continuous, not quite extending to

the apex of the inferior margin.—*Hook. Spec. t.* 62. *A.*—L. rufescens, *Kz. !*—Primary segments 8″–1½′ long, 8‴–10‴ broad.—HAB. Jamaica !, *Pd.*, in the Bluefield Mountains; Trinidad!, *Pd.*; [French islands; Venezuela !, Guiana!].

81. **L. stricta,** *Dry.* *Leaf* pinnatisect, 2-pinnatisect below, herbaceous, *rigid-erect: segments dimidiate-half-round,* subrectangular at the base: basilar margin straight, inferior straightish or backward curved, superior half-circular, fertile: *petiole cylindrical;* sori continuous, not quite extending to the apex of the inferior margin.—*Schk. Crypt. t.* 114. *med. Hook. Ic. t.* 98: the simply pinnatisect form.—Usually 1′–2′ high, 4‴–8‴ broad.—HAB. Jamaica! (*Sw.*), in high mountains; Trinidad !, *Lockh., Pd.*; [Mexico to Brazil !].

14. ADIANTUM, *L.*

Sori inserted into the revolute, specially transformed part of the leaf-margin or excurrent veinlets or laterally confluent beyond them: no proper indusium.—Leaf-segments *often cuneate at the base and oblique:* veins *usually dichotomous, rarely anastomosing.*

* *Leaf pinnatisect or* 2(–4)*-pinnatisect: segments subsessile or shortly petiolulate.*

82. **A. macrophyllum,** *Sw.* Leaf pinnatisect: *segments* 3–6-jugal, chartaceous, lateral subsessile, obliquely *ovate-deltoid,* sterile unequally serrate: petiole glabrous, ebeneous; *sori* continuous or distantly interrupted, *linear, not produced to the truncate base of the segments.*—*Br. Jam. t.* 38. *f.* 1: a sterile leaf-segment. *Hook. Grev. Ic. t.* 132.—1′ high; segments variable, sterile about 2″–3″ long, 1″–1½″ broad, fertile somewhat narrower. HAB. Jamaica !, all coll.; S. Vincent; Trinidad; [Cuba! to French islands !; Mexico! to Brazil !].

83. **A. Wilsoni,** *Hook. !* Leaf pinnatisect: *segments* 3–1-jugal, leathery, lateral shortly petiolulate, obliquely *ovate or ovate-oblong, acuminate* with a bluntish point, sterile serrate: petiole glabrous, ebeneous; *sori continuous nearly along the whole margin to near the rounded or subcordate base.*—*Hook. Spec. t.* 72. *A.*—Nearly allied to the preceding: anastomosing veins are infrequent, and occur also in *A. macrophyllum,* but the midrib is more developed below; 1′–1½′ high; segments 3″–4″ long, 1″–2″ broad.—HAB. Jamaica !, *Wils.*, in dry plains, near Bath.

84. **A. Kaulfussii,** *Kze.* Leaf pinnatisect: *segments* distantly 4–7*-jugal,* chartaceous, *glaucous beneath,* shortly petiolulate, obliquely *deltoid-lanceolate* (or ovate), sterile serrate: *petiole and rhachis rusty-downy; sori lining nearly the whole margin,* linear, *contiguously interrupted.*—*Hook. Grev. Ic. t.* 190.—A. obliquum, *Kaulf., Sieb. Mart.* 371.—1′ high; segments about 2″ long, 6‴–8‴(–12‴) broad.—HAB. Jamaica !, *Wright;* S. Vincent !, *Guild.*; [Cuba ! to French islands !; Mexico to Brazil !].

85. **A. obliquum,** *W.* Leaf pinnatisect (or 2-pinnatisect at the base): *segments* 7–18-*jugal,* chartaceous, *green on both sides,* obliquely *deltoid-lanceolate* or dimidiate, inferior shortly petiolulate, sterile serrate: *petiole and rhachis rusty-downy; sori lining nearly the whole margin, except the base, contiguously interrupted* (or continuous).—*Hook. Spec. t.* 79. *A.*—A. denticulatum, *Sw.:* Swartz's observation, that there occur 2-pinnatisect leaves, is confirmed by Fendler's Venezuela specimen (no. 469), but I prefer Willdenow's name, as comprising two Swartzian species.

α. Sori much interrupted.—*Plum. Fil. t.* 52.—*A. macrodon, Kaulf.* (*ap. Kze. !*): a form with 7–9-jugal, bluntish segments.

β. lucidum, Hook. ! (Sw. ex parte). Sori continuous; leaf-segments usually more acuminate.—*Sl. t.* 55. *f.* 2. *Hook. Spec. t.* 79. *C.*—HAB. Jamaica !, *Masson* (*β*); Trinidad !, *Sch.* (*α, β*); [Cuba ! to Brazil !].

86. **A. pumilum,** *Sw.* "Low; leaf pinnatisect: *segments lateral roundish* or elliptical, blunt, minutely serrulate, terminal larger, trapezoid: petiole pubescent or glabrate; *sori reniform, subsolitary.*"—*Mart. Crypt. Bras. t.* 26. *f.* 4.—"2½″–5″ high; lateral segments about 6‴ long."—HAB. Jamaica ! (*Sw.*), rare, on shady rocks and old trees.

87. **A. deltoideum,** *Sw.* Leaf pinnatisect or once 2-pinnatisect at the base: *segments* 6–8-jugal, membranaceous, *subequal-sided, deltoid or deltoid-roundish,* blunt, subentire, shortly petiolulate: petiole short, glabrous, or with a line of spreading hairs: rhachis often

proliferous; *sori continuous or contiguously interrupted, confined to the lateral margins.*—*Kze. Analect. t.* 17. *f.* 2.—6″–8″ high; segments 4‴–6‴ diam.—HAB. Jamaica!, *Pd.*, *Wils.*, *Al.*, on limestone rocks, S. Anns Bay, S. Thomas, i. E.; [Cuba!, Haiti].

88. **A. serrulatum,** *L.* Leaf pinnatisect or once–"twice" 2-pinnatisect at the base, produced into a pinnatifid or serrate apex (the longer, terminal segment): *segments* 15–20-jugal, chartaceous, *dimidiate-oblong* or *half-ovate*, blunt, inferior shortly petiolulate, superior gradually smaller, *sterile argutely denticulate* (except only at the base): petiole short, pubescent, channelled-cylindrical; *sori usually confined to the upper margin, contiguously interrupted.*—*Sl. t.* 35. *f.* 2.—A. denticulatum, *Mett.! in Pl. Lechl.* 2319 (*non Sw.*). Sloane's figure was compared by Sir W. Hooker with *A. pulverulentum*, L., but the continuous sori, and the stout, 4-gonal petiole distinguish at once that large species.—Usually 6″–8″ high; inferior segments 4‴, terminal 6‴–8‴ long.—HAB. Jamaica! (*Sw.*), on shady hills: [Cuba!, (Wr. Cub. 880); Peru!].

89. **A. cubense,** *Hook.* Leaf pinnatisect or once 2-pinnatisect at the base: *segments* 10–20-jugal, membranaceous, *broadly dimidiate-oblong* (or half-roundish), blunt, lobulato-crenate at the upper margin, inferior shortly petiolulate: *petiole slender*, channelled-cylindrical, *polished*, glabrate: rhachis puberulous; *sori reniform, distantly interrupted, confined to the upper margin.*—*Hook. Spec. t.* 73. *A.*—Allied to *A. dolabriforme*, Hook., and *A. lunulatum*, W., but in both these the segments are much longer-petiolulated.—8″–12″ high, delicate; segments 6‴–8‴ long, 4‴ broad.—HAB. Jamaica!, *M'Nab*; [Cuba!].

90. **A. villosum,** *L.* Leaf 2-pinnatisect: primary *segments* few-, *secondary* 10–15-jugal, chartaceous, *dimidiate-oblong-lanceolate or trapezoid-oblong*, subsessile, terminal rhomboid-lanceolate, entire: *petiole channelled-3-gonal, rusty-hairy; sori continuous, lining the upper margin and round the apex about one-half of the lower one.*—*Sl. t.* 55. *f.* 1. *Schk. Crypt. t.* 120.—A. falcatum, *Sw.*—1′–2′ high; secondary segments 1″–1½″ long, 4‴–5‴ broad.—HAB. Jamaica (*Sw.*), in woods; S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Panama! to Brazil!].

91. **A. tetraphyllum,** *W.* Leaf 2-pinnatisect: primary *segments* 3–1(–4)-jugal: *secondary* 8–18-jugal, herbaceous, glaucescent beneath, *dimidiate, trapezoid-oblong* or subfalcate-oblong, *serrate at the bluntish summit only*, shortly petiolulate, terminal narrow, serrate: *petiole channelled-3-gonal* (or 4-gonal at the base), polished, *hairy or glabrescent*: rhachis villous-hairy; *sori contiguously interrupted, confined to the upper margin*, and reappearing often at the lower margin of the oblique apex, rarely extending to it.—A. prionophyllum, *Kth.* A. striatum, *Sieb. Mart.* 370 (*non Sw.*). A. intermedium, *Hook.* (*non Kze.*). A. brasiliense, and fructuosum, *Lk.*—Variable, nearly allied to *A. villosum*, L.—1′–2′ high; secondary segments 1″ long, 4‴–5‴ broad.—HAB. Jamaica!, *Wiles*; Dominica!, *Imr.*; Trinidad!; [French islands!; Mexico! to Brazil!].

92. **A. triangulatum,** *Hook.* (*non Kaulf.*). Leaf 2-pinnatisect: primary *segments* 3–2(–4)-jugal, subapproximate: *secondary* 15–20-jugal, chartaceous, green on both sides, *dimidiate-oblong-lanceolate*, subfalcate bluntish, *serrate along the upper margin*, shortly petiolulate, terminal narrow, serrate: *petiole channelled-3-gonal, 4-gonal below, rusty-hairy; sori short, confined to the serratures of the upper margin, interrupted by its sinuosities.*—1½′–2′ high: petiole longer than the blades; secondary segments 1″ long, 3‴–4‴ broad.—HAB. Jamaica!, *Wils.*; Trinidad!, *Cr.*; [Cuba! to French islands!; Guiana!].

93. **A. intermedium,** *Sw.*, *Kze.!* (*non Hook.*). Leaf 2-pinnatisect: primary *segments* 6–2-jugal: *secondary* 10–24-jugal, chartaceous, *dimidiate-oblong, rounded at the apex*, subsessile, sterile serrulate along the upper margin and round the apex, terminal narrow, serrate: *petiole wholly channelled-4-gonal*, polished, *rusty-hairy; sori oblong, contiguously interrupted along the upper margin and usually round the apex.*—A. prionophyllum, *Hook.* (*non Kth.*), *Eat. in Wr. Cub.* A. triangulatum, *Kaulf. sec. Kze.*: but Kaulfuss's description agrees better with *A. tetraphyllum*, W.—1′–3′ high; secondary segments 8‴–10‴ long, 3‴–4‴ broad.—HAB. Jamaica; S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Cuba! to Guiana!].

94. **A. cayennense,** *W.* Leaf 2-pinnatisect: primary *segments* 4–3-jugal: secondary 30–40-jugal, chartaceous, *dimidiate-oblong*, rounded at the apex, subsessile, sterile serrate along the upper margin, and crenate-dentate at the apex, terminal narrow, serrate: *petiole*

wholly channelled-4-gonal, rusty-hairy or glabrescent; *sori roundish, occupying the crenatures of the upper margin, interrupted by its narrow sinuosities.—Hook. Spec. t*, 71. *A*: segments larger than in our specimens.—2′–3′ high; secondary segments 6‴–8‴ long, 3‴–4‴ broad.—HAB. Jamaica! (*Hook.*); [Guiana!, Brazil!].

95. **A. pulverulentum,** *L.* Leaf 2-pinnatisect: primary *segments* 3–6-jugal, produced into a narrow, serrate apex: *secondary* about 40-jugal, herbaceous, *dimidiate-oblong*, usually serrate at the bluntish, subfalcate apex, subsessile: *petiole* 4-*gonal*, polished, rusty-hairy; *sori continuous, confined to the upper margin*, usually terminated below the apex.—*Plum. Fil. t.* 55. *Schk. Crypt. t.* 119.—1′–3′ high; secondary segments 6‴–5‴ long, 2‴ broad, dark-green.—HAB. Jamaica!, *Wiles, Wright;* [Cuba! to French islands; Mexico! to Brazil!].

96. **A. obtusum,** *Desv.* Leaf 2-pinnatisect: primary *segments* 3–8-jugal: *secondary* 15-30-jugal, leathery-chartaceous, *dimidiate-oblong, blunt*, subsessile, terminal small, bluntish, sterile serrulate along the upper margin and round the apex: *petiole channelled-3-gonal*, ebeneous, *glabrous:* rhachis pubescent or glabrous; *sori contiguously interrupted along the upper margin and round the apex* (rarely continuous).—*Hook. Grev. Ic. t.* 188.—1′–2′ high; secondary segments usually 4‴–5‴ long, 2‴ broad.—HAB. S. Vincent; Trinidad!, *Lockh., Sch.;* [Panama! to Brazil!].

97. **A. cristatum,** *L.* Leaf 2-pinnatisect, once 3-pinnatisect at the base (-pinnatisect): primary *segments* 3–6-jugal, *ultimate* 10–20-*jugal*, chartaceous, *dimidiate-oblong or half-ovate*, dentate above at the sterile, crenate-lobulate at the fertile part, shortly petiolulate, terminal subentire, mostly narrowly acuminate: *petiole* slender, *scabrous*, channelled-half-cylindrical; *sori distantly interrupted* along the upper margin, or from it round the apex, *half-oval* or shortly oblong, *occupying the middle part of the truncate lobules.—Plum. Fil. t.* 97.—A. striatum, *Sw.*—1½′–3′ high; segments 8‴–4‴ long, 4‴–3‴ broad.—HAB. Jamaica!, *Wiles, March;* [Cuba! to Venezuela!].

98. **A. Kunzeanum,** *Kl.* Leaf 2-pinnatisect to once 3-pinnatisect at the base; primary *segments* 5–3-jugal, *ultimate* 6–12(–20)-jugal, herbaceous, *shortly dimidiate-oblong or half-quadrate, blunt*, sharply serrate at the summit, lobulate at the fertile upper margin, shortly petiolulate, uppermost smaller or terminal acuminate: *petiole* slender, *scabrous*, channelled-half-cylindrical; *sori distant* along the upper margin, *semilunar-reniform, occupying the middle part of broadly emarginate lobules between the marginal angles.*—Perhaps a form of the preceding, but segments less approximate; 1′–2′ high; segments 6‴–4‴ long, 4‴–3‴ broad.—HAB. Jamaica! (*Hook.*); [Cuba!].

99. **A. microphyllum,** *Kaulf.* Leaf 2-pinnatisect or sub-3-pinnatisect at the base: primary *segments* 9–6(–3)-jugal, *ultimate sub*-30-*jugal*, herbaceous, dimidiate, *shortly half-ovate-oblong*, bluntish, denticulate or subentire, lobulate at the fertile part, shortly petiolulate, uppermost much smaller: *petiole* slender, *scabrous*, channelled-subcylindrical; *sori few–solitary*, confined to the upper margin, *subcontiguous*, half-oval or oblong, *occupying nearly the whole breadth of the truncate lobules.—Schk. Crypt. t.* 118.—A. striatum, *Schk.* A. pyramidale, *W.* (*Plum. Fil. t.* 54): probably.—2′–3′ high; segments 4‴–3‴ long, 3‴–2‴ broad.—HAB. Jamaica!, *Pd., Lane;* [Cuba!].

100. **A. crenatum,** *W.* Leaf 3(–"4")-pinnatisect, 2-pinnatisect above: *segments* distant, *ultimate* 15–30-jugal, herbaceous, *dimidiate-ovate-oblong, bluntish*, inciso-lobulate at the fertile upper margin, shortly petiolulate: *petiole* channelled-subcylindrical, *glabrous;* rhachis slightly hairy; *sori semilunar-reniform, occupying the entire breadth of the broadly emarginate lobules*, subcontiguous, separated by the narrow indentations of the margin.—*Plum. Fil. t.* 53. *Hook. Spec. t.* 83. *c.*—A. Wilesianum, *Hook.!*—2′ high; segments 8‴ long, 4‴–3‴ long.—HAB. Jamaica!, *Wiles, Lamb.;* [Mexico! to Peru!].

101. **A. polyphyllum,** *W.* Leaf 3–4-pinnatisect: *ultimate segments* 20–12-jugal, chartaceous, *dimidiate-oblong, rounded at the apex*, inciso-lobulate at the fertile upper margin, shortly petiolulate: *petiole* and rhachis *glabrous*, ebeneous; *sori roundish, occupying the middle part of the emarginate lobes between their blunt margins, distant.—Hook. Spec. t.* 83. *A.*—Segments 6‴–8‴ long, 3‴ broad.—HAB. Trinidad (*Hook.*); [Venezuela!].

** *Leaf decompound-pinnatisect: segments supported by slender petiolules.*

102. **A. trapeziforme,** *L.* Leaf 3–(4–2)-pinnatisect: *segments* herbaceous, glaucescent, *dimidiate-trapezoid or rhomboid,* inciso-lobulate at the two upper, fertile margins, *pointed: angles sharp:* petiole shining-ebeneous, glabrous; *sori shortly oblong-half-round, occupying the middle part of the truncate, entire lobes.—Sl. t.* 59. *Schk. Crypt. t.* 122.—A. rhomboideum, *Schk.* A. formosissimum, *Kl.*—4′ high; segments 1½″–1″, petiolules 4‴–1‴ long.—Hab. Jamaica!, *Wiles, Pd.;* [Cuba! and Mexico! to Brazil!].

103. **A. cultratum,** *J. Sm.!* Leaf 3-(4–2)-pinnatisect: *segments* herbaceous, glaucescent, *dimidiate-rhomboid or oblong,* inciso-lobulate at the upper fertile margin and round the apex, *blunt: angles* (except the basilar) *obtuse:* petiole shining-ebeneous, glabrous; *sori semilunar-reniform, occupying the middle part of the emarginate lobes.—Plum. Fil. t.* 95. *Schk. Crypt. t.* 121. *b.*—A. trapeziforme, *Schk.*—2′ high; segments 12‴–8‴, petiolules 1½‴–1‴ long.—Hab. Jamaica (*Schk.*); S. Vincent (*Hook.*); [Brazil!].

104. **A. Capillus-Veneris,** *L.* Leaf 2–4-pinnatisect: *segments* membranaceous, *cuneate-roundish or obliquely rhomboid,* inciso-lobulate or lobed above, *not jointed at the base:* petiole slender, glabrous; sori half-round or oblong, occupying the middle part or entire breadth of the lobes.—*Hook. Spec. t.* 74. *B:* our West Indian, glaucescent form, with deeply cut, rhomboid segments and 6–8 sori (A. incisum, *Bartl. ms.*).—1′–2′ high; segments 10‴–4‴ diam., petiolules 2½‴–1‴ long.—Hab. Jamaica, Dominica and Trinidad (*Hook.*); [Cuba!; Mexico!, United States!, Pacific islands!; south and west of Europe!; to China, East Indies! and the Cape!].

105. **A. tenerum,** *Sw.* Leaf 3–4-pinnate: *segments* membranaceous, usually glaucescent, *obliquely rhomboid,* bluntish, inciso-lobulate or lobed at the two upper fertile margins, *jointed at the base of the blade:* petiole slender, shining-ebeneous, glabrous; sori oblong-half-round, occupying the middle part (rarely the entire breadth) of the lobes.—Not distinguished from the preceding Cuba form, but by the excellent character of jointed segments.—Segments 6‴–10‴, petiolules 2½‴–1‴ long.—Hab. Bahamas!, *Swains.;* Jamaica!, *Wiles, Pd.;* Antigua!, *Nichols.*, Dominica!, *Imr.*, S. Vincent; [Cuba! to French islands! Mexico! to Venezuela!].

106. **A. fragile,** *Sw.* *Leaf* 3–4-pinnate, *divided from near the base: segments* membranaceous, *subequal-sided* or slightly oblique, *cuneate-roundish,* dentate-lobulate at the terminal, fertile margin, *jointed at the base of the blade:* petiole shining-ebeneous, glabrous; sori oblong-half-round, occupying the middle part of the broadly emarginate lobes.—1′–1½′ high; segments 4‴–2‴(–6‴) diam.; petiolules 2‴–1‴ long.—Hab. Jamaica!, *Wright, Pd.*, *Wils.*, on calcareous rocks: [Cuba! to Martinique!].

107. **A. concinnum,** *Kth.* Leaf 3–2-pinnatisect: *segments* membranaceous, *obliquely rhomboid* or *rhomboid-roundish, lowest* secondary and tertiary *ones approximate and appressed to the rhachis, subequal-sided,* deltoid-roundish, all lobulate at the two upper fertile margins, *not jointed at the base:* petiole shining, glabrous; *sori semilunar-reniform,* occupying the middle part of the broadly emarginate lobes.—*Kth. N. Gen.* 7. *t.* 668.—1′–2′ high; segments 4‴–8‴(–9‴), petiolules 2‴–1‴ long.—Hab. Jamaica!, *Macf.;* S. Vincent; [Cuba! and Mexico! to Peru!; Galapagos].

15. HYPOLEPIS, *Bernh.*

Sori round, marginal, confined to the lower anterior, free veintets, inserted near their summit, covered by reflexed, specially transformed appendages of the margin.—Stout Ferns; rhizome *often creeping out of the ground;* leaves *much divided:* all veinlets *free: sori usually in the sinuosities of the ultimate segments.*

108. **H. repens,** *Pr.* Prickly, glabrescent; *leaf 3-pinnatisect: tertiary segments* oblong-lanceolate, upward decrescent, *lower pinnatipartite,* superior pinnatifid and serrate, *uppermost and ultimate ones subentire:* lobes and serratures approximate, obliquely rounded: sori single(–2) at the base of their anterior margin: involucre small, transversely oblong, herbaceous.—*Plum. Fil. t.* 12. *Hook. Spec. t.* 90. *B.* Lonchitis, *L.* Cheilanthes, *Kaulf.*, *Sieb. Mart.* 373 (Dicksonia aculeata, *Spreng.*).—6′–4′ high; distant primary segments 2′, secondary 6″–3″, lower tertiary 8‴–10‴ long, ultimate 1‴ broad, lowest

$2'''$–$1\frac{1}{2}'''$ long.—HAB. Jamaica!, *Wils.*, *Pd.*, *Wiles*; [Cuba! to French islands!; Venezuela! to Brazil!; Galapagos!].

109. **H. nigrescens,** *Hook.* Prickly, glabrous; *leaf 3-pinnatisect: tertiary segments* oblong, bluntish, most equal, *low pinnatipartite,* superior pinnatifid, *uppermost and ultimate ones serrate:* lobes and serratures bluntish: sori single at the base of their anterior margin: involucre minute, scarious.—*Hook. Spec. t.* 90. *C.*—Distant primary segments $1'$, secondary $3''$–$2''$, most tertiary $6'''$ long, ultimate $1'''$ broad, lowest $2'''$ long.—HAB. Jamaica!, *Wiles;* [Martinique!; Venezuela!: I exclude Cuming's East Indian habitat].

110. **H. Purdieana,** *Hook.* Unarmed, glandular-hairy below; *leaf 3–2-pinnatisect: ultimate segments* oblong, blunt, *pinnatifid with rounded lobes,* decurrent into the margined rhachis, uppermost cuneate-entire; sori single at the base of the anterior margin of the lobes: involucre half-round, herbaceous, scarious at the margin.—*Hook. Spec. t.* 91. *B.* —Not to be distinguished from *Polypodium rugulosum,* Lab., but by the specially transformed, involucral appendages, and probably passing into that widely ranging species (*H. rugulosa,* J. Sm.).—Ultimate segments $3'''$–$2'''$ long, $1'''$ broad.—HAB. Jamaica!, *Pd.*, Westmoreland; [New Granada].

16. CHEILANTHES, *Sw.*

Sori round, distinct or confluent along the margin, inserted into the summit of all or most free veinlets, covered by reflexed, specially transformed appendages of the margin.—Leaves *divided, usually much so.*

§ 1 *Sori approximate or confluent.*

111. **C. microphylla,** *Sw.* *Leaf 2-pinnatisect,* puberulous beneath or glabrescent: secondary segments serrate-pinnatifid, blunt, ultimate subentire: petiole terete, about as long as the blade, rusty-puberulous chiefly on the upper side; *sori shortly or interruptedly confluent:* involucre membranaceous.—*Sl. t.* 13. *f.* 2. *Plum. Fil. t.* 58. *Hook. Spec. t.* 98. *A.*—Adiantum, *Sw.* C. elongata, *Eat. Pl. Wr.*—Leaf-blade $6''$–$12''$, primary segments $1''$–$1\frac{1}{2}''$ long, most of the latter subequal; longer secondary segments $4'''$–$3'''$ long, $2'''$–$1\frac{1}{2}'''$ broad.—HAB. Jamaica!, *Hartw.*, *Wils.*, in mountain-woods; S. Vincent!. *Guild.*; [Cuba! to French islands!; Mexico! to Peru!; Galapagos!].

The Jamaica habitat of *C. marginata,* Kth. (Hook. Spec. 2. p. 106), is erroneous, all Purdie's specimens proving to be from New Granada.

§ 2. *Sori roundish, all distinct* (Adiantopteris, *Fée*).

112. **C. radiata,** *J. Sm.* Slender, glabrous; *leaf palmatisect: segments pinnatisect,* secondary horizontal, oblong, blunt, upward auricled at the truncate, shortly petiolulated base, subentire, most equal: most veinlets simple; sori distinct, lining the margin: *involucre half-round,* membranaceous.—*Plum. Fil. t.* 100. *Hook. Spec. t.* 91. *A.*—Adiantum, *L.* Hypolepis, *Hook.*—Petiole black-shining, terete, $12''$–$4''$ long; primary segments expanded like 5–9 rays, middle longer $6''$–$3''$, exterior $3''$–$1''$ long: secondary ones $4'''$ long, $1'''$ broad.—HAB. Jamaica!, *Pd.*, Manchester; Dominica!, *Imr.*; [Cuba!, Haiti!, *Sieb. Mart.* 398; Mexico! to Peru! and Brazil!].

113. **C. pedata,** *A. Br.* Slender, glabrous; *leaf ternatisect:* 2 lateral divisions unequally 2-partite, with the lower and shorter segments pinnatisect, the superior and the deltoid *middle division 2-pinnatisect below,* pinnatisect with pinnatipartite segments above: ultimate segments obliquely oblong, bluntish, subentire (except at the abruptly auricled upper side of the cuneate, shortly petiolulated base), superior decrescent: most veinlets simple; sori distinct: *involucre reniform,* membranaceous.—*Hook. Spec. t.* 92. *A.*—Hypolepis, *Hook.*—Petiole of the preceding; leaf-blade $6''(-12'')$ long and usually as broad: ultimate inferior segments $3'''$–$4'''$ long, $1'''$ broad above the spreading auricle.—HAB. Jamaica!, *Pd.*; [Veraguas].

17. NOTHOLÆNA, *R. Br.*

Sori confluent along the margin, inserted into the summit of all or most free veinlets, naked.—Leaves *divided.*

114. **N. trichomanoides,** *R. Br.* *Leaf* pinnatisect, glabrate above, *white-powdery and rusty-tomentose* with stellate down beneath and at the rhachis: *segments* short, oblong, blunt, or ovate-oblong, *sinuate*, crenate or repand, pinnatifid or auricled at the base, very shortly petiolulate, *flat at the margin,* most equal; sori lining the margin.—*Sl. t.* 35. *f.* 1. *Plum. Fil. t.* 75.—Pteris, *L.* Cheilanthes, *Mett.* N. ferruginea, *Eat. Pl. Wr.*—Leaf 12″–6″, petiole 2″–3″ long: segments 8‴–4‴ long, 3‴–2‴ broad, at first white, at length rusty beneath.—Hab. Jamaica!, *all coll.;* [Cuba!; Haiti].

115. **N. rufa,** *Pr.* *Leaf* pinnatisect, pilose-pubescent above, pale, at length *rusty-tomentose, but devoid of powder beneath,* pilose at the rhachis: *segments* short, oblong-lanceolate, bluntish, *regularly pinnatifid* or almost pinnatipartite, very shortly petiolulate, *revolute at the margin,* superior decrescent; sori juxtamarginal.—Cheilanthes ferruginea, *W.*—In the Jamaica specimens (*N. rufescens,* Hook. Herb.) the leaf-segments are pinnatifid only to the middle, and their revolute margin is scarcely membranaceous.—Leaf 1½′–1′, petiole 3″–5″ long: middle segments 8‴–5‴ long, 2‴ broad.—Hab. Jamaica!, *Wils.*, on rocks and shingly soil, S. Andrews, at 3000–4000′ alt.; [Mexico! to Peru! and Buenos Ayres].

18. PTERIS, *L.*

Sori linear, lining the specially transformed, revolute leaf-margin and covered by it, mostly inserted into a special anastomosis of veinlets: proper indusium usually none.—Sterile leaves *devoid of the fertile anastomosis of veinlets.*

§ 1. *Sori naked beneath the leaf-margin.*—Petiole with a single bundle of vessels. (*Eupteris.*)

* *Leaf pinnatisect or lower segments pinnatisect again.*

116. **P. longifolia,** *L.* *Leaf* pinnatisect: segments *linear,* acuminate, cordate or truncate at the subsessile base, serrulate (except at the sori), numerous: *veins mostly free,* forked: petiole pale; sori continuous below the sterile apex.—*Sl. t.* 34. *Plum. Fil. t.* 69. *Schk. Crypt. t.* 88.—P. vittata, *L.* P. bahamensis, *Fée.*—Segments 6″–2″ long, 4‴–1‴ broad.—Hab. Bahamas!, *Swains.;* Jamaica!, *all coll.;* [Cuba! to Venezuela!; Southern Spain!, Italy!, and Dalmatia to tropical Africa, East Indies!, Australia, and Pacific islands].

117. **P. grandifolia,** *L.* *Leaf* pinnatisect: *segments lanceolate-linear,* acuminate, cuneate or rounded at the base, entire: *veins* parallel, forked, mostly *connected* towards the sorus: petiole pale; sori continuous.—*Sl. t.* 40. *Plum. Fil. t.* 105. *Hook. Spec. t.* 113. *B.*—P. vittata, *Schk.* (*Crypt. t.* 89): a form with the veins mostly free, collected by Rugel in Cuba.—Segments 12″–6″(–4″) long, 12‴–8‴(–6‴) broad.—Hab. Jamaica!, *Macf.*, *Lambert, Pd.;* [Cuba! to French islands!; Mexico! to Peru!].

118. **P. mutilata,** *L.* *Leaf* pinnatisect, 2-pinnatisect at the base: *fertile segments linear,* mucronate-bluntish, superior shortly decurrent at the base, *sterile oblong* or elliptical-oblong, *repand with a cartilaginous margin:* veins forked or simple, free: petiole pale; sori continuous.—*Hook. Spec. t.* 131. *A.*—P. concinna, *Heward:* a form with "2-pinnatisect leaves."—8″–1½′ high, long-petioled; segments about 6-jugal, fertile 1″–4″ long, 3‴–4‴ broad, sterile as broad, but shorter.—Hab. Jamaica (*Heward*); [Cuba!; Haiti].

119. **P. heterophylla,** *L.* *Leaf* pinnatisect, 2–3-pinnatisect at the base: *fertile segments oblong-linear,* few-serrate at the bluntish apex, decurrent, *sterile spathulate, coarsely serrate* above the cuneate base: veins simple or forked, free: petiole pale; sori continuous.—*Sl. t.* 53. *f.* 2.—8″–12″ high; segments about 6-jugal, fertile 12‴–8‴ long, 2‴ broad, sterile 4‴–5‴ broad.—Hab. Jamaica!, *Macf., Al., Pd.*, in shady woods; [Cuba!; Haiti; Brazil!].

** *Leaf 3-partite: segments pinnatifid.*

120. **P. pedata,** *L.* *Leaf cordate-3-partite,* opaque: segments pinnatifid(–2-pinna-

tifid) or inferior half-pinnatifid, terminal acuminate, its lowest lobes larger: *veins areolate: petiole ebeneous*, slender, puberulous at the summit: the down extended to the upper side of the ribs; sori continuous.—*Plum. Fil. t.* 152. *Schk. Crypt. t.* 100. *sin.*—8″–12″ high; blade 3″–5″ diam.—HAB. Jamaica!, *Pd.*, Royal Mountains; [Cuba! to French islands!, *Sieb. Mart.* 368; Venezuela! to Brazil!].

*** *Leaf stout, pinnately divided: segments pinnatifid–pinnatisect.*

121. **P. laciniata,** *W. Hairy* with flaccid down; *leaf* stout, 2-*pinnatisect–2-pinnatipartite:* inferior *secondary segments pinnatifid to the middle*, superior and lobes of the inferior oblong or ovate, blunt, entire: ribs unarmed: *veins distant*, forked, *free:* petiole pale; sori continuous below the apex, often most contiguous at the sinus.—*Plum. Fil. t.* 20. *Schk. Crypt. t.* 86.—Lonchitis hirsuta, *L.*,' *Sieb. Mart.* 372. P. diplazioides, *Moritz!:* a form with the sori distant from the sinus.—About 4′ high; leaf submembranaceous, flaccid, while in all the following species it is herbaceous and glabrous; inferior secondary segments 3″–1″ long, 10‴–6‴ broad.—HAB. Jamaica!, *M'Nab, Al.;* Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Cuba! to French islands!; Mexico! to Peru!].

122. **P. podophylla,** *Sw. Leaf* stout, 2-*pinnatisect–2-pinnatipartite:* most inferior *secondary segments* and superior primary ones *deeply pinnatifid* or 2-pinnatifid at the base, superior pinnatifid to the middle: *lobes oblong, bluntish*, serrulate beyond the sorus: *sinus narrow:* ribs mucronulate above at the origin of their divisions: *veins areolate with* 2–3-*serial meshes:* petiole pale; sori continuous below the apex, contiguous at the sinus.—*Br. Jam. t.* 1: an unusual form with few primary segments, the origin of Swartz's species. *Hook. Spec. t.* 139: upper segments.—P. propinqua, *Ag.!* P. Kunzeana, *Hook.* P. biformis, *Splitg.* (*ex Kze. in Pl. Kegel.!*). P. aculeata, *Eat.* (*non Sw.*).—Lobes 1″–6‴ long, 4‴–3‴ broad: rhachis 3‴–4‴ broad.—HAB. Jamaica!, *all coll.;* S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Cuba! to French islands!; Mexico! to Brazil!; Galapagos].

123. **P. aculeata,** *Sw.* (*ex Plum.*). *Leaf* stout, 2-*pinnatisect: secondary segments deeply pinnatifid: lobes lanceolate-acuminate*, subfalcate, serrulate beyond the sorus: *sinus rounded, narrowly open:* ribs mucronulate above at the origin of their divisions: *veins areolate with* 4–5-*serial meshes:* petiole pale, "prickly" or unarmed; sori continuous below the apex, contiguous at the sinus.—*Plum. Fil. t.* 5. 11.—P. elata, *Hook.!:* from this my diagnosis is taken, though not agreeing with Agardh's diagnosis, but my Panama specimens are exactly like Plumier's figures, except in their petiole being unarmed. P. longibrachiata, *Ag.* (*ex descr.*).—Lobes 1″–2″ long, 6‴ broad: rhachis 4‴–6‴ broad.—HAB. Jamaica (*Sw.*); S. Vincent (P. longibrachiata, *Ag.*); [French islands; Panama!; Venezuela].

124. **P. crassipes,** *Ag.! Leaf* stout, 2-*pinnatisect–2-pinnatipartite:* most inferior *secondary segments pinnatipartite* (or semi-2-pinnatifid at the base), superior deeply pinnatifid, tertiary and *lobes lanceolate-acuminate*, subfalcate, serrulate beyond the sorus: *sinus broadly open:* ribs mucronulate above at the origin of their divisions: *veins areolate with* 2–3-*serial* meshes: petiole pale; sori continuous below the apex, contiguous at the sinus.—P. aculeata, *Hook.* P. protea, *Liebm.* P. gigantea, *Sieb. Mart.* 366 [*non* P. gigantea, *W.* (Guadeloupe!), which is distinguished by oblong, bluntish leaf-segments with a narrow sinus]. P. Kunzeana, *Eat. Pl. Cub.* P. Sloanei, *Radd.* (*Sl. t.* 47)?: distinguished by the terminal segments elongated, pinnatifid with roundish lobes.—Lower segments 3″ long, 6‴ broad: rhachis 2‴ broad.—HAB. S. Vincent!, *Guild.;* Trinidad!, *Pd.;* [Cuba! to French islands!; Mexico! to Brazil!].

125. **P. biaurita,** *L. Leaf pinnatisect: segments deeply pinnatifid to about seven-eighths, lowest* 2(–3)-*sect: lobes linear-oblong, blunt, entire:* ribs mucronulate above at the origin of their divisions: *veins forked, free, lowest connected, forming a single mesh* between two ribs and the costa: petiole pale; sori continuous to or round the sinus and to near the apex.—*Plum. Fil. t.* 15. *Hook. Gen. t.* 65. *A.*—Lobes about 1″ long, 3‴–4‴ broad: rhachis as broad.—HAB. Antigua!, *Nichols.;* [French islands!, *Sieb. Mart.* 367; trop. Africa to East Indies! and Hongkong!].

126. **P. pungens,** *W., Kze.! Leaf pinnatisect: segments deeply pinnatifid to about five-sixths, lowest* 2-*sect: lobes linear-oblong, pointed, serrulate* above the sorus: ribs

mucronulate above at the origin of their divisions: *veins* forked, *all free*, lowest inserted into the costa: petiole pale, prickly below; sori short, about half as long as the lobes, somewhat distant at the sinus.—*Plum. Fil. t.* 13. 14.—Middle lobes 1″ long, 3‴ broad, superior and inferior decrescent: rhachis 4‴ broad.—HAB. Trinidad (*Ag.*, *J. Sm.*); [Haiti to Guiana!, *Pl. Kegel*].

127. **P. quadriaurita,** *Retz.*, *Hook.* *Leaf pinnatisect: segments pinnatipartite, lowest* 2(–3)-*sect: secondary ones oblong-linear, blunt, entire, repand at the summit: ribs with a slender prickle above* at the origin of their divisions: *veins* forked, *all free:* petiole pale, purplish below; sori continuous below the apex, contiguous at the sinus.—*Hook. Spec. t.* 134. *B; Gen. t.* 64. *A.*—P. repandula, *Lk.*, *Mett.* P. felosma, *J. Sm.* P. Plumieri, *W.* (*ex pl. cult.*).—Ultimate segments 8‴ long, 2‴ broad: rhachis 1‴ broad.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*; Trinidad!, *Woodf.*; [all tropical countries].

128. **P. Swartziana,** *Ag.!* *Leaf pinnatisect: segments pinnatipartite, lowest* 2–3-*sect: secondary ones linear-oblong, blunt, serrate* above the sorus: ribs mucronulate above at the origin of their divisions: *veins* forked, *all free*, the lowest often inserted into the costa: petiole pale, purplish-brown below; sori continuous, about half as long as the leaf-segment.—*Hook. Grev. Ic. t.* 142.—P. biaurita, *Sw.* (*non L.*). Ultimate segments 8‴ long, 3‴ broad: rhachis 1½‴ broad.—HAB. Jamaica!, *Pd.*, *Wils.*

129. **P. deflexa,** *Lk.* *Leaf* 2–3-*pinnatisect:* ultimate *segments oblong*, dilated at the base, subfalcate *mucronate-pointed*, cartilaginous at the margin, entire or few-serrate above the sorus: ribs mucronulate above at the origin of their divisions: *veins all free*, forked, or simple, subdistant: petiole pale; sori continuous below the apex.—P. stridens, *Ag.:* the form with entire leaf-segments. P. flabellata, *var.* americana, *Ag.* (S. Vincent) is to be compared with it.—Ultimate segments 6‴ long, 2‴ broad at the base.—HAB. Jamaica (*Bancr.:* P. stridens, *Ag.*); [Venezuela! (*Moritz*) to Brazil].

130. **P. incisa,** *Thunb.* *Leaf* 2-*pinnatisect*, glaucescent beneath: *secondary segments pinnatipartite*, distant, *lowest approximate to the common rhachis: ultimate ovate-oblong, bluntish*, subentire, broad at the base: ribs unarmed: *veins dichotomous, usually connected by their lowest branchlets:* petiole pale, at length purplish; sori continuous below the apex.—*Raddi, Fil. Bras. t.* 71.—P. vespertilionis, *Lab.* P. pallida. *Radd.* P. glauca, *Moritz.*—Our form is "scandent;" secondary segments about 3″–2″ long, 12‴–8‴ broad at the base.—HAB. Jamaica!, *Lamb.*, *Bancr.*; [Guadeloupe! and most tropical countries to Australia, New Zealand!, and the Cape].

§ 2. *Sori included between the revolute leaf-margin and an inferior, usually narrower indusium.*—Veins forked, free (*Ornithopteris*, Ag.).

* *Petiole with a single bundle of vessels.*

131. **P. scalaris,** *Moritz!* Subscandent, glandular-hairy; leaf 3–2-pinnatisect: segments distant, partial pinnatipartite, ultimate small, ovate or ovate-oblong, usually blunt: petiole pale, with a single bundle of vessels; sori continuous: *indusium broad.*—*Hook. Spec. t.* 121. *B*, *t.* 141. *C.*—Inferior partial segments 8‴–2‴ long, 4‴–1‴ broad.—HAB. Jamaica!, *Macf.*, *Wils.*; [Venezuela! to Peru!].

** *Petiole with many distinct bundles of vessels.*

132. **P. aquilina,** *L.*, var. **lanuginosa,** *Bory.* Leaf 3-pinnatisect, villous beneath and at the rhachis: *ultimate segments* oblong-lanceolate, blunt, *broadly adnate at the equal base*, inferior subdistant: petiole pale, with numerous bundles; membranaceous part of the revolute margin ciliate, distant from the rib.—The northern form (α) is only distinguished by the glabrous rhachis, and the leaf pubescent or glabrous beneath.—HAB. Jamaica (*Hook.*); [both temperate and tropical zones, our form in warmer climates].

133. **P. caudata,** *L.* Leaf 3-pinnatisect, sericeous beneath or "glabrous:" *ultimate segments* linear or linear-oblong, blunt, *superior oblique at the* shortly decurrent, *downward cuneate base*, all usually distant, terminal elongated: *rhachis glabrous:* petiole pale, with numerous bundles; membranaceous part of the revolute margin ciliate or glabrescent, about ¼ as broad as the segment.—*Sl. t.* 63. *Plum. Fil. t.* 29.—Segments 1‴ broad, variable in length.—HAB. Jamaica!, *Lambert*, *Wiles*; [Cuba! and Mexico! to Guiana].

134. **P. arachnoidea,** *Kaulf.* Leaf 3-pinnatisect, sericeous or villous beneath: *ultimate segments* oblong-linear, or oblong, blunt, adnate at the base, *most abruptly produced downward into a* transversely half-elliptical or lanceolate *auricle*, distant: *rhachis hairy:* petiole pale, with "12" bundles; membranaceous part of the revolute margin glabrous, distant from the rib.—Segments 1‴–3‴ broad, variable in length.—HAB. Jamaica (*Ag.*); Trinidad!, *Cr.*, heights of S. Anne; [Cuba!; Venezuela!, Guiana!, Ecuador!, Peru!, Brazil!].

Series 2. **Aspleniеæ.**—*Sori dorsal, decurrent along veins, or covering the surface.*

19. TÆNITIS, *Sw.*

Sori continuous, lining the margin of the leaf, or parallel to it, confined to a special anastomosis of the veinlets, naked.—Leaves *narrow, entire, or forked-pinnatipartite with entire segments.*

135. **T. angustifolia,** *R. Br.* *Leaf* chartaceous, *linear-lanceolate, entire*, tapering at both ends, glabrous: veins in sub-4-serial, narrow meshes, devoid of appendages; *sori* juxtamarginal, *very little distant from the flat edge*, decurrent to near the tapering leaf-base.—*Hook. Gen. t.* 77. *A.*—Pteris, *Sw.* Pteropsis, *Desv.*—Leaf 1½′–4″ long, 9‴–4‴ broad, "pendulous."—HAB. Jamaica!, *Macf.*, *Pd.*, on rocks and trees; S. Vincent!, *Guild.*; Trinidad!, *Pd.*; [Cuba! and Mexico to equat. Brazil!; Galapagos!].

136. **T. lanceolata,** *R. Br.* *Leaf* coriaceous, *lanceolate, entire*, undulate-flexuose, glabrous, tapering into a short petiole: network of veins irregular, provided with appendages; *sori lining the margin, slightly embraced by its revolute edge*, confined to the upper part of the leaf.—*Plum. Fil. t.* 132. *Fée, Polypod. t.* 8. *C.*—Pteris, *L.* Pteropsis, *Desv.* Neurodium, *Fée.*—Leaf 1½″–6″ long, 12‴–6‴ broad about the middle.—HAB. Jamaica!, *Macf.*, *Pd.*, on trees; [Cuba! to French islands!; Belize!].

137. **T. furcata,** *W.* *Leaf* rigid-chartaceous, *distantly pinnatiparte–3–2-fid*, tapering at the base of the narrow, fertile part, bearing scattered, appressed scales beneath, shortly petioled, or sessile: segments and rhachis linear, or oblong-linear: veins 2-fid, usually free (except at the fertile anastomosis); *sori* lining the margin (or transversely confluent), *slightly embraced by the revolute edge*, confined to the upper part of the segments.—*Plum. Fil. t.* 141. *Fée, Polypod. t.* 8. *A.*—Pteris, *L.* Cuspidaria, *Fée.* Dicranoglossum, *J. Sm.*—1½′–3″ high.

α. Leaf tapering into the sessile base: segments oblong-linear below the tapering summit, 8‴–4‴ broad.

β. subpinnatifida, Fée. Leaf tapering into a short petiole: segments linear, 2‴–4‴ broad.—*Hook. Grev. Ic. t.* 7.

HAB. Trinidad!, *Sch.*, *Pd.*, on trees; [Cuba!; Panama! to Guiana! and equat. Brazil].

20. VITTARIA, *Sm.*

Sori continuous, sunk into a groove, inserted into a special anastomosis of veinlets, either parallel to the margin of the narrow, entire leaf, or within its duplicate margin itself.—Veins *simple between the midrib and the anastomosis of the groove:* plaits *along the latter replacing an indusium.*

138. **V. lineata,** *Sw.* *Leaf* long, rigid, *obtusely costate beneath; sori shortly distant from the margin.*—*Plum. Fil. t.* 143: sori wrongly at the margin. *Schk. Crypt. t.* 101. *b. sin.*—Pteris, *L.*—Leaf 1′–2½′ long, 1‴–2‴ broad; sori usually more distant from the midrib than from the margin, rarely equidistant from both.—HAB. Jamaica!, *Masson*, *Wils.*, *Pd.*, common on trees; S. Vincent!, *Guild.*, Barbadoes!, *Sw.*; [all tropical countries to Florida and the Cape!].

21. ANTROPHYUM, *Kaulf.*

Sori continuous upon distinct parts of the network of veins, in several lines not reaching to the base, the midrib, or the margin of the entire leaf.—Veins *in a network, devoid in our species of veinlets or appendages;* sori *linear, naked, or lined with plaits.*

139. **A. lineatum,** *Kaulf.* *Leaf linear,* tapering into the subsessile base, costate; *sori* 2–4 on each side of the midrib, parallel to it, approximate, but distinct, *sunk into grooves* the grooves lined by plaits, continuous throughout the fertile part of the leaf.—*Schk. Crypt. t.* 101. *b. dextr.* *Hook. Gen. t.* 107.—Polytænium, *Desv.* Vittaria lanceolata, *Sw.*—Ambiguous between *Antrophyum* and *Vittaria,* of which latter genus it has the narrow, rectangular vein-meshes. Leaves cæspitose, 1′–4″ long, 3‴–2‴ broad, acuminate, or blunt, chartaceous.—Hab. Jamaica !, *Pd.*, on trees, S. Georges; [Cuba ! and Guatemala ! to Brazil !].

140. **A. lanceolatum,** *Kaulf.* *Leaf narrowly linear-lanceolate,* tapering at both ends, costate; *sori superficial,* chiefly along the longer sides of narrow vein-meshes, often *anastomosing,* in 4–2 flexuose series along the longitudinal diameter of the leaf.—*Plum. Fil. t.* 127. *C.:* a rough figure, and leaf too broad. *Schk. Crypt. t.* 6. *sin.*—Hemionitis, *L.*—Leaf $1\frac{1}{2}$′–6″ long, 6‴–4‴(–2‴) broad.—Hab. Jamaica !, *Pd.*, on fallen trees; Dominica !, S. Vincent !, *Guild.*, Barbadoes !; [Cuba ! and Mexico ! to Venezuela ! and Guiana !]

22. CERATOPTERIS, *Brongn.*

Sori continuous, decurrent along 1–2, special, longitudinal veins, parallel to the midrib, embraced by the revolute, membranaceous margin of the narrow segments of the fertile leaf: no proper indusium. *Sporangia* subsessile: ring often reduced: spores globose, large, few. —An aquatic Fern; fertile leaf 3–4-*pinnatisect, sterile difform, membranaceous* 2(–3)-*pinnatipartite* (*-undivided*), *with broad, lobed segments:* veins *areolate.*

141. **C. thalictroides,** *Brongn.*—*Hook. Gen. t.* 12. *Hook. Grev. Ic. t.* 97.—Acrostichum, *L.* Parkeria pteridoides *and* Lockhartii, *Hook. Grev.*—Hab. Jamaica !, *Wils.*, *Wiles;* S. Vincent !, *Wright.;* Trinidad !, *Pd.;* [all tropical countries].

23. PLEUROGRAMME, *Pr.*

(Cochlidium *and* Hymenolepis, *Kaulf.*)

Sori continuous, lining closely the midrib, confluent transversely above it, confined to a special anastomosis of veinlets in the upper part of the narrow leaf, often embraced by its margin, naked.—Leaf *linear, or forked.*

142. **P. graminoides,** *Fée.* Leaf linear, (or 2-fid at the summit), blunt, tapering toward the subsessile base: *fertile part laterally incurved round the included narrow sorus,* with a replicate, flattish margin: veins inconspicuous.—*Sw. Synops.* 1. *f.* 5. *Hook. Gen. t.* 84.—Asplenium, *Sw.* Grammitis, *Sw.* Cochlidium, *Kaulf.* Monogramma, *Desv.*—Leaf 1″–2″ long, 1‴ broad, recurved.—Hab. Jamaica (*Sw.*), on trees, in the highest mountains; [Cuba ! to Venezuela ! and Guiana !].

143. **P. linearis,** *Pr.* Leaf linear, blunt, tapering at the subsessile base and upwards into the base of the long, *fertile part:* the latter obtusely keeled above, *biconvex beneath,* with the margin distant from the sorus: veins free with a thickish summit, not excurrent into the margin; sorus as broad as each of the convex sides, which line it.—*Hook. Gen. t.* 72. *A.*, 75. *A.*—Tænitis, *Kaulf.*—Leaf 6″–4″ long, 2‴ broad below, $1\frac{1}{4}$‴ at the sorus, flexuose.—Hab. Dominica !, S. Vincent !; Trinidad !, *Cr.;* [Guadeloupe !].

24. BLECHNUM, *L.*

Sori continuous (or interrupted), decurrent along a special, longitudinal anastomosis of veins, parallel and usually approximate to the midrib: indusium lining the sorus at its exterior side.—Veins *beyond the sorus usually free.*

* *Leaf-pinnatipartite–pinnate.*

144. **B. polypodioides,** *Radd.* *Leaf pinnatipartite,* pinnatisect at the base, pinnatifid below the entire apex, shortly petioled: *segments broadly adnate,* oblong, pointed, *subentire,* lowest short, deltoid: sinus acute: veins subdistant, most forked; sori about half as long as the segment, appressed to the midrib.—Variable in size; sori unequal, superior often wanting.—Hab. Jamaica (*Pd.*); [Haiti and Mexico to Peru ! and Brazil].

145. **B. occidentale,** *L.* *Leaf pinnatisect,* pinnatifid below the entire summit: *most segments broadly adnate,* subfalcate-oblong, or oblong-lanceolate, pointed, *subentire, inferior cordate at the base,* lowest subsessile: veins dichotomous–simple; sori appressed to the midrib.—*Sl. t.* 44. *f.* 2. *Plum. Fil. t.* 62. *f. B. Schk. Crypt. t.* 108. *B.*—B. cartilagineum, *Schk.* (*non Sw.*). B. glandulosum, *Kze.* (*Farnkr. t.* 85. *f.* 2.).—Segments 1″–3″ long.—Hab. Jamaica!, *Pd., Wright;* Dominica!, *Imr.,* S. Vincent!, *Guild.;* [Cuba! and Mexico! to Brazil! and Chile!; Galapagos!].

146. **B. serrulatum,** *Rich.* *Leaf pinnate:* leaflets oblong-linear, pointed, *cuneate at the subsessile, jointed base, serrulate,* terminal as long as the middle ones: veins approximate, most simple; sori appressed to the midrib.—*Schk. Crypt. t.* 108.—B. angustifolium, *W.*—Leaflets numerous, 2″–3″(–4″) long.—Hab. Dominica!, *Imr.;* Trinidad; [Florida to South Brazil!].

147. **B. longifolium,** *Kth.* *Leaf pinnatisect,* long-petioled: *segments* 2–5-*jugal,* subdistant, lanceolate-acuminate, entire, cuneate or rounded at the sessile base, uppermost lateral obliquely adnate, *terminal elongated:* veins simple, or forked; sori appressed to the midrib.—*Hook. Spec. t.* 154: a form with the segments subcordate at the base (*B. gracile,* Kaulf.).—Segments 5″–8″(–2″) long: in young specimens occur undivided, but fertile leaves (*Spruce, Pl. Peruv.*).—Hab. S. Vincent!, *Wright:* Trinidad!, *Lockh.;* [Mexico! to Brazil!].

** *Leaf 2-pinnatisect.*

148. **B. volubile,** *Kaulf.* *High-twining;* leaf 2-pinnatisect (–pinnatisect): secondary *segments* few-jugal, *entire, fertile linear-lanceolate, or lanceolate, sterile lanceolate-oblong* pointleted, oblique at the petiolulated base: veins approximate, connected at the callous margin; *sori* appressed to the midrib: indusium large, at length *breaking up into pieces.*—*Hook. Gen. t.* 93.—Salpichlæna, *J. Sm.*—Segments 6″–12″(–16″) long.—Hab. Jamaica!, *Pd.;* Dominica!, *Imr.;* Trinidad!, *Pd.;* [French islands! and Venezuela! to Brazil!].

25. LOMARIA, *W.*

Sori continuous between the midrib and the margin of contracted, specially transformed leaf-segments, decurrent along a longitudinal anastomosis of veins: indusium juxtamarginal.—Veins of the difform, sterile leaves *free, often forked.*

149. **L. attenuata,** *W.* Fertile leaf pinnatisect, its segments narrowly linear, sessile: *sterile pinnatipartite above, pinnatisect below, segments* broadly adnate, *oblong-lanceolate,* usually *subfalcate-acuminate,* entire, *lowest much decrescent,* distant, deltoid–half-round.—*Metten. Fil. Lips. t.* 3. *f.* 1–6. *Hook. Spec. t.* 146.—Blechnum, *Metten.* Onoclea, *Sw.* O. polypodioides, *Sw.* (*Lomaria,* Desv.). L. onocleoides, *Spreng.*—Rhizome creeping, or high-ascending on trees: its rusty, dense paleæ long, linear-acuminate; sterile leaves 1′–2′ long, 2″(3″–1″) broad, segments variable.—Hab. Jamaica (*Sw.*); Dominica (*Imr.*), S. Vincent!, *Guild.;* [Cuba! to French islands; all tropical countries].

150. **L. divergens,** *Kze.* Fertile *leaf* pinnatisect, its segments linear, adnate-sessile; *sterile pinnatipartite segments oblong, bluntish,* entire, *lowest conform,* not decurrent.—Blechnum, *Metten.!* L. Plumierii, *Hook.* α: I regard *L. Plumierii,* Desv., as a doubtful synonym, Plumier's figure (Fil. t. 90: Martinique) showing much narrower, linear-acuminate sterile segments.—Rhizome ascending; sterile leaves 2′–3′ long, 6″ broad below, segments 10‴–8‴ broad, sinus narrow.—Hab. Dominica!, *Imr.;* [Guadeloupe!; Venezuela! to Brazil!].

151. **L. procera,** *Desv.* *Leaf pinnatisect,* coriaceous: *segments* of the fertile ones linear, of the *sterile oblong-linear, obliquely cordate at the base,* lowest conform, usually petiolulate; indusium large, breaking into pieces.—*Hook. Grev. Ic. t.* 207.—Osmunda, *Forst.!* L. Gilliesii, *Hook. Grev.*—Rhizome stout, ascending-erect; sterile leaves 2′–4′, segments 2″–6″ long, the latter 6‴–18‴ broad, very variable.

[α. Segments serrulate.]

β. *striata,* W. Segments entire below, serrulate at the narrow apex.—*Sieb. Mart.* 245.

γ. *lineata,* W. Segments broad, subentire.—Onoclea, *Sw.*

Hab. Jamaica!, *Pd., Al., Bancr.* (β, γ), peaks of the Blue Mountains; Dominica!

Imr., S. Vincent !, *Guild.*, high mountains; [French islands !; southern temperate zone and tropical mountains].

152. **L. magellanica,** *Desv.* Low-arborescent; *leaf pinnatisect,* rigid-coriaceous: *segments* of the fertile ones linear, of the *sterile oblong-linear, rounded or cuneate at the* subsessile or adnate *base, entire;* indusium large, at length lacerate.—*Kze. Analect. t.* 12.—L. rufa, *Spreng.* L. Ryani, *Kaulf.*—Perhaps passing into the preceding, but trunk "1–4′ high," terminated by a coma of narrow, 1″–1½″ long, brown paleæ; segments 3″–6″ long, 6‴–10‴ broad.—HAB. Montserrat (*Kaulf.*); [Venezuela! to Fuegia; Mauritius to the Cape!].

26. STENOCHLÆNA, *J. Sm.* (*exclus. sp., non Fée*).

(Lomariopsis, *Fée.*)

Sori covering the under side of the contracted leaflets of a pinnate leaf, except the membranaceous, often revolute margin, naked: sterile leaf difform.—Leaf *pinnate:* veins *costate, midrib of the segments excurrent.*

153. **S. sorbifolia,** *J. Sm.* Scandent, prickly below; *leaflets* 14–22-*jugal, oblong-lanceolate, pointleted,* cuneate at the base, *serrulate,* glabrous, chartaceous: rhachis margined: veins excurrent; fertile leaflets linear, petiolulate: margin very narrow: *veins free.*—*Plum. Fil. t.* 117.—Acrostichum, *L.* Onoclea, *Sw.* Lomaria, *Kaulf.*—30′–40′ high, "clasping trees like a cable;" leaf 1′–1½′ long: most leaflets 2″ long, 6‴–8‴ broad, fertile as long, 2‴ broad.—HAB. Jamaica!, *Pd., Al.;* Montserrat, S. Vincent!, *Guild.;* [Cuba! to Brazil!].

154. **S. longifolia,** *J. Sm.* Unarmed; *leaflets* 5–6-*jugal, oblong, rounded-pointleted,* cuneate at the base, *serrulate-repand,* glabrous, chartaceous: rhachis margined: veins excurrent, forked and simple; fertile leaflets linear, petiolulate: margin narrow, expanded: *veins free.*—*Sl. t.* 38. *Fée, Polypod. t.* 1. *B. f.* 1.—Lomaria, *Kaulf.* Lomariopsis erythrodes, *Fée.*—Leaf 1′ long: leaflets 3″–4″ long, 1″ broad, fertile 2″–3″ long, 3‴ broad.—HAB. Jamaica!, *Wils.;* Dominica!, *Imr.;* Trinidad!, *Pd.*, on trees; [French islands to Guiana!].

155. **S. japurensis,** *Gr.* Unarmed; *leaflets* 5–9-*jugal, large, oblong, pointleted,* rounded-cuneate at the base, *repand-entire,* glabrous, chartaceous: veins excurrent into the slightly thickened margin, most simple, few-forked; fertile leaflets long, linear, petiolulate: margin very narrow: *veins connected by an intramarginal arch.*—*Mart. Crypt. Bras. t.* 24.—Acrostichum, *Mart.* A. phlebodes, *Kze.! in Pl. Kegel.* (*Lomariopsis*, Fée).—Leaf 1½′–3′ long: leaflets 6″–4″ long, 2″–1½″ broad, fertile 6″ long, 4‴ broad.—HAB. Trinidad!, *Pd.*, in woods, on trees, Arima; [Guiana!, Brazil].

27. GYMNOPTERIS, *Bernh.*

Sori covering the under side of the flat segments of a pinnatisect leaf, naked: sterile leaf difform.—Sterile leaf *large, pinnatisect, or pinnatifid:* veinlets *in a network, midrib of the segments excurrent.*

156. **G. aliena,** *Pr.* *Leaf pinnatisect below, pinnatifid at the deltoid summit,* membranaceous, glabrous: *segments* oblong-lanceolate, acuminate, *inferior pinnatifid or coarsely crenate-serrate,* lobes and serratures upward decrescent: vein-meshes with a simple (or no) appendages; fertile segments lanceolate, inferior often sinuate below, superior entire.—*Plum. Fil. t.* 10. *Hook. Gen. t.* 85.—Acrostichum, *Sw.*—1½′–3′ high; lowest segments 6″–4″(–8″) long, 2″–1″ broad, shortly petiolulate: lowest inferior lobe exceeding the rest; fertile segments 3″–1″ long, 6‴–3‴(–8‴) broad at the base.

α. Lowest segments pinnatifid: most meshes with interior, simple appendages.

β. Purdiæi. Lowest segments crenate serrate: most meshes devoid of appendages.

HAB. Jamaica!, *Pd.*, *Wils.* (*β*), in moist woods, S. James, Manchioneal; Trinidad!, *Lockh.* (*α*).; [Cuba! and Mexico! to Ecuador! and Guiana!].

157. **G. nicotianifolia,** *Pr.* *Leaf pinnatisect,* chartaceous, glabrous: *segments* 2–4-*jugal,* large, elliptical-oblong, pointleted, *repand-entire,* terminal elliptical: meshes between the pinnate veins with branched appendages; fertile segments oblong, or oblong-lanceolate,

obliquely pointed.—*Plum. Fil. t.* 115.—Acrostichum, *Sw.* G. acuminata, *Pr.*—Leaf 3′ 4′ long: segments 8″–10″ long, 3″, uppermost 5″ broad, fertile 4″–3″ long, 12‴–6‴ broad.—HAB. Jamaica !, *Wils.*, *Pd.*, *Bancr.*, in moist woods, Manchester ! [Cuba ! to French islands !].

28. CHRYSODIUM, *Fée.*

Sori covering the under side of the upper, flat segments of a pinnatisect leaf, naked: inferior segments sterile, conform.—Stout Ferns; veins *in a network, midrib almost excurrent.*

158. **C. vulgare,** *Fée.* Leaf coriaceous, glabrous: segments oblong-lanceolate, or oblong-linear, blunt, or bluntish, cuneate at the base, entire: network of veins simple.—*Plum. Fil. t.* 104. *Schk. Crypt. t.* 1, 1. *b.*—Acrostichum aureum, *L.*—8′–10′ high: segments 6″–12″ long, 1″–2″ broad.—HAB. Jamaica !, *Wils.*, in marshes and bogs: [all tropical countries and a little beyond their borders to Florida, Natal, Hongkong].

29. RHIPIDOPTERIS, *Schott.*

Sori covering the under side within the margin of a palmatinerved, roundish-emarginate (or 3-lobed) leaf-blade, naked: sterile leaf difform, palmatipartite (rarely palmatinerved-subentire).—All leaf-ribs *dichotomous, free.*

159. **R. peltata,** *Schott. Sterile leaf several times dichotomously palmatipartite*: segments linear, ultimate short, pointed, 1-nerved, veinless: petiole slender; *fertile blade reniform*: sterile margin crenulate.—*Plum. Fil. t.* 50. *a.*—Rhizome filiform, creeping; leaves scattered, sterile about 1″, fertile 4‴–3‴ broad: petiole 2″–1″ long.—HAB. Jamaica !, *Pd.*, on trees and rocks, S. Georges; Dominica !, *Imr.*; [Cuba ! and Mexico ! to Guiana ! and Peru !].

30. ACROSTICHUM, *L.*

Sori covering the under side of a flat, entire, leaf-blade, naked: sterile leaf nearly conform.—Midrib in our species *tapering, or disappearing at the summit:* petiole *mostly jointed at the base.*

* *Veins in a simple, narrow network* (Hymenodium, *Fée*).

160. **A. crinitum,** *L. Leaf elliptical,* blunt, or bluntish, quite entire, long-petioled, chartaceous, *blackish-ciliate and -pilose: bristles* long, dilated at the blade, crowded along the petiole and margin, scattered on the surface: veins in a simple network; fertile blade conform, but smaller.—*Plum. Fil. t.* 125. *Hook. Grev. Ic. t.* 1.—Blade 15″–3″, petiole 12″–3″ long.—HAB. Jamaica !, *Pd.*, on rocks, in shady woods, S. Georges; Dominica !, *Imr.*, S. Vincent !, *Guild.*; [Cuba ! to French islands !, on trees].

** *Veins simple, or forked, nearly parallel, free, rarely connected by a single marginal arch* (Elaphoglossum, *Schott*).

† *Leaf ciliate with rusty bristles.*

161. **A. villosum,** *Sw. Leaf lanceolate-oblong,* with a bluntish point, undulate-repand, or subentire, *petioled,* chartaceous, *rusty-ciliate* and -pilose: bristles dilated at the base, crowded along the thin margin, scattered on the surface: veins simple and forked, free–excurrent; fertile blade lanceolate, pointed.—*Plum. Fil. t.* 127, *med. inf. Hook. Grev. Ic. t.* 95.—A. undulatum, *Kaulf.* (*ex Sieb. Mart.* 346). A. Moritzianum, *Eat. Pl. Wr.* 1046: *non Kl.*).—Sterile blade 8″–4″ long, 1½″–1″ broad, fertile 3″–2″ long, 8‴ broad: petiole 4″–2″(–10″) long, rusty with crowded (or scattered) bristles.—HAB. Jamaica !, *Pd.*, *Bancr.*; Dominica !, *Imr.*; [Cuba ! to French islands !, Venezuela !, Ecuador !].

162. **A. apodum,** *Kaulf. Leaf lanceolate,* shortly acuminate, with a bluntish point, repand or quite entire, long-tapering into the *subsessile* base, chartaceous, *rusty-ciliate* and pilose, or glabrescent: veins forked, or simple, excurrent into the thickish margin; fertile blade linear-lanceolate, pointed.—*Hook. Grev. Ic. t.* 99.—Sterile leaf 1½′–8″ long, 1½″–1″ broad, fertile shorter, 5‴–6‴ broad.—HAB. Jamaica !, *Macf.*, *Pd.*, in woods near Bath; Montserrat, S. Vincent !, *Guild.*; [Cuba !, to equat. Brazil !].

†† *Leaf densely rusty-paleaceous.*

163. **A. muscosum,** *Sw.* *Leaf lanceolate-oblong, blunt,* quite entire, cuneate at the base, supported by a slender, scaly petiole, coriaceous, glabrescent above, *rusty-lepidote* by dense, appressed scales *beneath : scales* lanceolate-acuminate, or ovate, *shortly ciliate :* leaf-margin thickish ; fertile blade linear, tapering into a long petiole.—*Schk. Crypt. t.* 1. *b. sin.* —A. squamosum, *Schk.* (*non Sw.*) A. Langsdorfii, *Hook. Grev.* (*Ic. t.* 164), and A. rufescens, *Liebm.*, are probably two forms slightly disagreeing from our Jamaica form.—Sterile blade 5″–3″ broad, 1½″–1″ long : scales of the upper side scattered, disappearing, ; fertile blade about 6″ broad, 8‴ long : petiole of the former 2″–3″, of the latter 6″–8″ long.—Hab. Jamaica !, *Bancr. ;* Dominica !, *Imr. ;* [Haiti ! and Mexico ! to Brazil ! : the above quoted synonyms].

164. **A. vestitum,** *Schlecht.* *Leaf lanceolate-linear, bluntish,* quite entire, tapering into the slender, scaly petiole, coriaceous, glabrescent above, *rusty-lepidote* by dense, appressed scales *beneath : scales* lanceolate-acuminate, *shortly ciliate :* leaf-margin thickish ; fertile blade linear, bluntish at both ends, long-petioled.—*Plum. Fil. t.* 139. *Mart. Gal. Fil. Mex. t.* 3. *f.* 2.—A. fulvum, *Mart. Gal.* A polylepis, *Kze.*—Sterile blade 6″–1′ long, 8‴–10‴ broad, fertile 4″ long, 6‴ broad : petiole of the former 2″–6″, of the latter 5″–8″ long.—Hab. Jamaica !, *Macf.*, *Al.*, on trees, Blue Mountains ; [Mexico to Brazil].

165. **A. squamosum,** *Sw.* *Leaf linear-lanceolate,* bluntish, or pointleted, quite entire, tapering into the short petiole, chartaceous, ciliate and *rusty-paleaceous on both sides : scales* spreading and crowded along the petiole and the thin leaf-margin, *long-ciliate* with spreading, pectinate bristles, linear- or lanceolate-acuminate along the petiole and on the under side of the blade, passing into pinnatisect bristles on the upper side and often at the margin ; fertile blade linear, acuminate at both ends.—The longer petiole in Swartz's description I regard as an unusual state of a larger form : *A. paleaceum,* Hook. Grev. (Ic. t. 235 : *A. vestitum,* Lowe), the Madeira Fern reduced to the Jamaica species by Swartz, is distinguished by a broader leaf, and the scales mostly broader ; but *A. squamosum,* Pl. Spruce, 7185, is in some respects intermediate, though peculiar in certain, perhaps individual characters from both.—Sterile blade in our single Jamaica specimen 6″–8″ long, 8‴ broad, fertile 4″ long, 4‴ broad, petiole in both 2″–1″ long.—Hab. Jamaica !, *Pd.*, S. Georges, near Springhill ; [Brazil ! and Madeira : the above quoted synonyms].

††† *Leaf glabrous, or little paleaceous.*

166. **A. viscosum,** *Sw.* *Leaf lanceolate-linear, or linear,* acuminate, quite entire, tapering into the slender petiole, *rigid-chartaceous,* with minute, scattered scales on both sides, or glabrescent : *veins excurrent into the thin, revolute margin :* petiole scaly ; *fertile blade linear,* tapering at both ends.—*Hook. Grev. Ic. t.* 61. *Plum. Fil. t.* 129 ? : quoted doubtfully by Swartz on account of not excurrent veins, and there exists really a nearly related Fern (*A. simplex,* Pl. Spruce. 2187 and 5320, non Sw., allied to *A. scolopendrifolium,* Radd.), in which the veins are terminated with a thickish summit, a little distantly from the thin margin.—A. petiolatum, *Sw.*—Sterile blade 6″–8″(–12″) long, 4‴–9‴(–12‴) broad, fertile 4″–6″ long, 2‴–5‴ broad.—Hab. Jamaica !, *Macf.*, *Pd.*, common ; Dominica !, S. Vincent !, *Guild. ;* [Cuba ! to Brazil ! ; East Indies !].

167. **A. simplex,** *Sw.* *Leaf lanceolate, or linear-lanceolate,* bluntish at the tapering point, and tapering into the shorter petiole, quite entire, *coriaceous,* glabrous, or with a few minute scales : *veins excurrent within the thickish, revolute margin into a special anastomosing arch :* petiole glabrescent ; *fertile blade linear-lanceolate,* tapering into the petiole.—*Hook. Gen. t.* 105. *A.*—Swartz described an extreme, shortly petioled form, agreeing with one of our Jamaica specimens, but from the same locality a much larger, and apparently identical form was sent : the latter is the same with Pl. Wright. Cub. 970, and agrees with Bauer's figure quoted above. *A. martinicense,* Desv. (Eat.), though much receding in habit by linear, or lanceolate-linear 3‴–6‴ broad leaves, shows the same structure of veins and thick-leathery texture, and from certain, intermediate forms and from the general variability of the leaf-shape in *Acrostichum,* it may perhaps be a variety only, much diffused on the Continent.—Sterile blade 4″–12″ long, 9‴–18‴ broad, fertile 5″–8″ long, 4‴–8‴ broad, petiole of the former 1″–4″, of the latter 3″–6″ long.—Hab. Jamaica !, *Pd.*, on decayed trees,

S. Georges: Trinidad!, *Cr.*; [Cuba! to Brazil!; *A. martinicense*, Desv.: French islands! and Mexico! to Brazil!].

168. **A. latifolium,** *Sw.* *Leaf lanceolate-oblong, pointed,* cuneate at the base, quite entire, much longer than the petiole, *rigid-chartaceous,* glaucescent, glabrescent with distant, minute scales: *veins excurrent into the thickish, narrow margin:* petiole glabrescent; *fertile blade oblong-lanceolate* (or ovate), *bluntish, cuneate at the base.*—*Plum. Fil. t.* 135. —A. longifolium, *Jacq.* A. alismifolium, *Eat. Pl. Wr.* 966, 969.—Sterile blade 12″–4″ long, 1½″(2″–1″) broad, fertile 4″(–1″) long, 1″ broad, petiole of both 6‴–1½″ long.—Hab. Jamaica!, *Macf.*, *Pd.*, on trees, S. Georges; Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba! and Mexico! to Brazil! and Peru!].

169. **A. Schomburgkii,** *Fée* (*ex Kze. in Pl. Kegel.!*). *Leaf elliptical, or elliptical-oblong, bluntish at the contracted summit,* tapering into the short petiole, quite entire, *rigid-chartaceous,* glabrous, or with a few minute scales: *veins excurrent into the thickish narrow margin, thickish below the delicate summit:* petiole scaly, or glabrescent; *fertile blade lanceolate-oblong, pointed.*—Sterile blade 12″–6″ long, 3″–2½″ broad, fertile 4″–7″ long, 1″–2″ broad, petiole of the former 1″–2″, of the latter 2″–5″ long.—Hab. Trinidad!, *Pd.*, in woods, Arima; [Guiana!, on trees].

170. **A. conforme,** *Sw.* *Leaf small, ovate-oblong, or lanceolate-oblong, pointed,* contracted at the base, *about as long as the petiole,* repand-entire, *coriaceous,* glabrous, or with a few, minute scales: *veins excurrent into the thickish, narrow margin:* petiole glabrescent; fertile blade oblong, bluntish at both ends.—*Sw. Synops. t.* 1. *f.* 1.—Sterile blade 2″–3″ (–1″) long, 10‴–12‴(–6‴) broad, fertile 2″–4″(–1″) long, 10‴–6‴(–4‴) broad, petiole of the former 4″–2″(–1″), of the latter 4″–2″(–1½″) long.—Hab. Jamaica!, *Pd.*, *Wils.*, on decayed trees, S. Georges; Dominica!, *Imr.*, on Mount Conliabon; [Mexico! to Brazil! S. Helena!, Tristan d'Acunha!, Cape!, East Indies!].

171. **A. Feei,** *Bory.* *Leaf small, lanceolate, blunt, tapering into the slender petiole, sinuate-crenate above, chartaceous,* glabrous: *veins distant,* forked, *terminated at a small distance from the thin* or narrowly revolute *margin:* petiole few-scaly; *fertile blade shorter than its petiole,* lanceolate, or oblong, bluntish.—Rhizome filiform, with scattered leaves; sterile blade 1″ long, 3‴–4‴ broad, fertile 8‴–5‴ long, 2‴ broad, petiole of the former 6‴–8‴, of the latter 1″–1½″ long.—Hab. Dominica!, *Imr.*, on Mount Conliabon!; [Guadeloupe!].

31. POLYBOTRYA, *Humb. Bonpl.*

Sori on veiny, confluent receptacles, covering the under side or both sides of the contracted leaf-segments, naked: sterile leaf difform.—Stout Ferns; leaf *in our species 2–3-pinnatisect, and veinlets free.*

172. **P. caudata,** *Kze.* *Leaf 2-pinnatisect below, pinnatisect above,* glabrous, chartaceous: primary segments oblong-lanceolate, passing gradually upward from a pinnatisect or pinnatifid division into serrulate, acuminate apices: secondary segments and lobes obliquely pointed: veinlets forked, and simple, excurrent; fertile leaf 2-pinnatisect: *segments fertile on both sides.*—Lowest primary segments about 8″ long, secondary 2″–1″ long, 6‴ broad, lower secondary fertile ones 2″ long.—Hab. Trinidad!, *Pd.*, Woodford, on trees; [Mexico! to Guiana! and Brazil!].

173. **P. osmundacea,** *Humb. Bonpl.* *Leaf 3-pinnatisect,* glabrous, chartaceous: secondary segments oblong-lanceolate, acuminate, ultimate obtusely serrate, bluntish: veinlets simple (or forked), not excurrent; *fertile* leaf 3-pinnatisect: *segments fertile on the under side,* but often confluent above by the contraction of the segment.—*Hook. Gen. t.* 78. *B.: analyt.*—P. cylindrica, *Kaulf.*: the state with the sori confluent above.—Lower secondary segments 4″–8″ long, tertiary 1″ long, 4‴–6‴ broad, lower tertiary fertile ones 1‴ long.—Hab. Jamaica!, *Wiles*, *Al.*, *Pd.*, near Fox's Gap, "twining up the trees;" [Cuba! to Brazil!].

32. OLFERSIA, *Radd.*

Sori covering both sides of the contracted segments of a 2-pinnatisect leaf, naked: sterile

leaf difform, pinnatisect.—A glabrous Fern; segments *large: veins costate, connected by a juxtamarginal arch.*

174. **O. cervina,** *Kze.—Plum. Fil. t.* 154: fertile segments too large. *Hook. Grev. Ic. t.* 81.—Osmunda, *L.* Acrostichum, *Sw.* Polybotrya, *Kaulf.*—1½′–3′ high: sterile segments rigid-chartaceous, 4–8-jugal, oblong-lanceolate, pointleted, or acuminate, oblique at the base, entire, most 6″–9″ long, 2″ broad, fertile usually 3″ long, secondary 3″ long, 1″ broad.—Hab. Jamaica!, *Bancr.*, *Pd.*, in woods; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Pd.*, on rocks; [Cuba! and Mexico! to South Brazil!].

33. LOMAGRAMME, *J. Sm.*

Sori covering two broad, longitudinal bands on the under side of contracted leaf-segments or leaflets, leaving free a space along the midrib and the revolute margin, naked: sterile leaf difform.—Leaf *pinnatisect, or pinnate: veins anastomosing.*

175. **L. præstantissima,** *Gr.* Leaf pinnatisect, glabrous, chartaceous: segments 4-7-jugal, oblong-lanceolate, acuminate, cuneate at the base, repand-entire, revolute at the margin, superior shortly decurrent: veins in a simple network; fertile segments long, linear: free spaces along the midrib and margin narrow.—Neurocallis, *Fée.*—Inferior segments 1′ long, 2″–1½″ broad, superior decrescent, fertile about 6″ long, 5‴–4‴ broad.—Hab. Dominica!, *Imr.*; [Guadeloupe].

34. ANETIUM, *Splitg.*

Sori scattered on the network of veins and the meshes of the entire leaf, naked.—Leaves *conform: veins in a simple network: petiole jointed at the base; sori forming distinct dots, or confluent.*

176. **A. citrifolium,** *Splitg.—Plum. Fil. t.* 116.—Acrostichum, *L.* Antrophyum, *Fée.*—Rhizome creeping, densely paleaceous; leaves scattered, chartaceous, lanceolate-oblong, or elliptical, pointed, 1½′–5″ long, 12½″–1″ broad, tapering into a short petiole: midrib disappearing above.—Hab. Jamaica!, *Pd.*, *Wils.*, on palm-trees; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*; [Portorico! to French islands!; Guiana! to Brazil!].

35. HEMIONITIS, *L.*

Sori reticulated, continuous upon the whole loose network of veins, naked.—Leaf *cordate, entire, or palmatifid.*

177. **H. palmata,** *L.* *Leaves* pilose, chiefly at the margin, *fertile cordate*-5-*lobed*, much shorter than the slender petiole, sterile 3–5-lobed, shorter petioled: lobes ovate, obtusely serrate, in the former produced into a deltoid point, in the latter blunt.—*Plum. Fil. t.* 151.—Fertile leaf 4″–2″ diam.: petiole 6″–8″ long.—Hab. Jamaica!, *Pd.*; Dominica!, *Imr.*; Trinidad!, *Lockh.*, *Cr.*, *Sch.*; [Cuba! to French islands!; Mexico! to Peru!].

36. GYMNOGRAMME, *Desv.*

Sori continuous, covering oblique, branched veins, at length often confluent, naked.—Leaf *mostly divided: veins free in our species, or nearly so.*

* *Leaf-segments entire: petiole valid.*

178. **G. rufa,** *Desv.* *Rusty-pilose*; leaf pinnatisect: *segments* distant, nearly horizontal, *ovate-oblong*, pointed, *entire*, shortly petiolulate: veins flabellate-2-3-forked (and simple); sori dense, distinct.—*Sl. t.* 45. *f.* 1. *Schk. Crypt. t.* 21. *sin.*—Acrostichum, *L.* Hemionitis, *Sw.*—1′–1½′ high; segments at length deciduous from the persistent petiolule, 2″–1″ long, 10‴–6‴ broad.—Hab. Jamaica!, *Hartw.*, *Wils.*, in dry, hot plains; [Cuba! and Guatemala! to Brazil!].

179. **G. trifoliata,** *Desv.* *Glabrous*, paleaceous below; leaf pinnatisect: *segments* chartaceous, spreading-erect, shortly petiolulate, or superior subsessile, 3-*sect*, or uppermost undivided, *special ones linear, acuminate*, entire, *white-powdery beneath*: veins flabellate-

3-forked: petiole stout; sori confluent.—*Sl. t.* 45. *f.* 2. *Plum. Fil. t.* 144.—Acrostichum, *L.*—2′–4′ high; petiole shining-purple; special segments 4″–2½″ long, 4‴–3‴ broad.—HAB. Jamaica!, *Macf.*, *Pd.*, *Al.*, on river-sides; [Cuba! and Mexico to Peru! and Brazil!].

** *Leaf-segments pinnatipartite: petiole slender.*

† *Leaf yellow- or white-powdery beneath, glabrous.*

180. **G. tartarea,** *Desv.* *Leaf* chartaceous, white-powdery beneath, *pinnatisect: segments pinnatipartite, secondary subcontiguous,* shortly decurrent, spreading, ovate-oblong, or ovate, *bluntish,* entire, crenate, or lower crenate-pinnatifid: veins flabellate-dichotomous; sori confluent.—Acrostichum, *Sw.* Hemionitis dealbata, *W.*—1′–2′ high; petiole black-shining: blade 4″ broad at the base.—HAB. Jamaica!; Dominica!, *Imr.*; [French islands!, Mexico to Peru!].

181. **G. ornithopteris,** *Kl.* *Leaf* rigid-chartaceous, white- (or yellowish-) powdery beneath, 2-*pinnati-pinnatisect: segments* usually *produced into a narrow,* bluntish, subentire or less divided *appendage, secondary distant,* nearly horizontal, adnate, oblong, *blunt,* entire or crenate, revolute at the margin, upward decrescent, lower usually pinnatipartite with short, contiguous, tertiary segments: veins flabellate-dichotomous; sori confluent.—G. calomelanos, *Eat. Pl. Wr.* 777 (including a yellowish-coloured variety); *Schlechtend. Pl. Schied. and Mett. Pl. Lechl.* 2027. G. dealbato-calomelanos, *Regel!* (*non* G. distans, *Lk.*). Allosorus farinosus, *Kze.* (*Farnkr. t.* 103): a less divided form with a paler petiole (*Pl. Lechl.* 2022).—1½′–4′ high; petiole usually purple: blade 6″–12″ broad at the base.—HAB. Jamaica!, S. Vincent!; [Cuba! and Mexico! to Peru!].

182. **G. calomelanos,** *Kaulf.* *Leaf* rigid-chartaceous, white- (or yellow-) powdery beneath, 2-*pinnati-pinnatisect: segments acuminate, secondary* shortly decurrent, spreading, most *serrate-pinnatifid with acute serratures or lobes,* lanceolate or ovate-oblong, lower often pinnatipartite: veins flabellate-dichotomous: sori confluent.—*Sl. t.* 30. *f.* 2. 53. *f.* 1. *Plum. Fil. t.* 40. *Schk. Crypt. t.* 5. *sup.*—Acrostichum, *L.* A. ebeneum, *L.* G. Martensii, *Bory:* the yellow-coloured variety (*Wr. Cub.* 975).—1′–4′ high; petiole black or purple: blade 3″–8″ broad at the base.—HAB. Jamaica!, *Wils.;* [Cuba to French islands!, *Sieb. Mart.* 236; Mexico! to Brazil!].

183. **G. chrysophylla,** *Kaulf.* *Leaf* rigid-chartaceous, golden-yellow- (or white-) powdery beneath, 2-*pinnati-pinnatisect: segments* bluntish at the tapering point, *secondary* subcontiguous, shortly decurrent, spreading, ovate or ovate-oblong, most *serrate-pinnatifid with blunt serratures or lobes,* lower pinnatipartite: veins flabellate-dichotomous; sori confluent.—*Plum. Fil. t.* 44.—Acrostichum, *Sw.* G. peruviana, *Desv.* (*Kze. Farnkr. t.* 32): the white-coloured variety. G. L'Herminieri, *Kze.:* a form with ovate-oblong segments and less blunt lobes (*Sieb. Mart.* 237).—1′–1½′ high; petiole purple-shining: blade 8″–3″ broad at the base.—HAB. Jamaica (*Kaulf.*); Dominica!, *Imr.;* [Haiti to French islands!, Mexico to Brazil! and Peru!].

184. **G. sulfurea,** *Desv.* *Leaf* membranaceous-chartaceous, pale-yellow-powdery beneath, 2-*pinnatisect:* secondary *segments* decurrent, lowest pinnatipartite with few divisions, *ultimate* obovate, *cuneate at the base, palmatifid* or dentate at the subtruncate summit, with the teeth or lobes usually pointed: veins flabellate-dichotomous; sori confluent.—*Schk. Crypt. t.* 4. *dextr.*—Acrostichum, *Sw.*—1′–(1½′–6″) high; petiole purple or pale: blade 2″ broad at the base.—HAB. Jamaica!, *Pd.*, *Al.*, *Hartw.*, on wet, shady banks; [Cuba!].

†† *Leaves devoid of powdery secretions beneath, glabrous.*

185. **G. chærophylla,** *Desv.* *Leaf* membranaceous, glabrous, 3-*pinnatisect:* tertiary *segments* pinnatipartite-palmatifid, cuneate at the base, *ultimate oblong, pointed or bluntish:* veins dichotomous, branches single in each ultimate segment or lobe; sori usually forked, with the branches diverging.—*Hook. Grev. Ic. t.* 45.—G. leptophylla, *Eat. Pl. Wr.* (*non Desv.*).—Delicate, 3″–10″ high; ultimate segments ¼‴–½‴ broad, the longer 1‴–1¼‴ long. —HAB. Jamaica!, *Pd.;* [Cuba! to Buenos Ayres!].

37. ASPLENIUM, *L.*

Sori lining oblique veins above their base and below their summit: indusium *lateral, inserted into the fertile vein, and decurrent along it.*—Veins *usually free.*

A. Purdiæi, Hook., is to be excluded from the West Indian Flora: from the date of his label it results, that this Fern was collected in Venezuela.

Sect. 1. EUASPLENIUM.—*Sori linear or oblong (–half-oval), most single.*

§ 1. *Veins costate, 2-partite–simple or anastomosing beyond the sorus.*

186. **A. serratum,** *L. Leaf lanceolate-oblong,* serrulate or subentire: midrib keeled beneath: *veins 2-partite* (–simple): *branches* parallel, *free,* terminated near the margin with a thickened summit (rarely a few anastomosing): petiole stout, pale; sori linear, produced to near the midrib, distant from the margin.—*Plum. Fil. t.* 124. *Schk. Crypt. t.* 64.—Leaves clustered, rigid, 1′–3′ long, 2″–4″ (–1″ broad.—HAB. Jamaica (*Sw.*); S. Vincent!, *Guild.*, on trees, rare, in the mountains; [Cuba! to Brazil!; Pacific islands].

187. **A. marginatum,** *L. Leaf pinnatisect: segments large, oblong-lanceolate,* subentire, subcordate at the base: midrib rounded beneath: *veins* 2-partite or simple, branches parallel, *areolate beyond the sorus,* and connected by a juxtamarginal arch: petiole long, pale; sori linear, often produced to near the midrib.—*Plum. Fil. t.* 106.—Hemidictyon, *Pr.*—4′–8′ high, submembranaceous; segments 1′–1½′ long, 3″–4″ broad, distantly sessile.—HAB. Jamaica!, *Pd.*; S. Vincent!, *Guild.*; Trinidad (*J. Sm.*); [Cuba! to French islands!, *Sieb. Mart.* 248; Panama! to Peru! and Brazil!].

§ 2. *Most veins forked or dichotomous.*

* *Leaf pinnatisect; indusium glabrous.*

† *Sori distant from the midrib, diverging; leaf herbaceous.*

188. **A. salicifolium,** *Sw.* (*ex Kze., Mett., Hook., non L.*). Leaf pinnatisect: *segments lanceolate-acuminate,* remotely serrulate or *entire,* upward produced and obliquely cuneate at the base, lowest conform: *rachis flattish,* wingless: veins dichotomous, branches terminated near the margin with an equal, slender summit: *petiole pale; sori linear, intermediate* between the margin and midrib.—*Metten. Asplen. t.* 4. *f.* 14: a segment.—I exclude Linnæus's synonym, as Plumier's figure (t. 60) is distinguished by the sori produced to near the midrib, as in *A. erosum*, Hook.—A. integerrimum, *Spreng.* A. Kapplerianum, *Kze.!*—Segments 3″–6″ long, 8‴–12‴(–6‴) broad; sori 8‴–6‴ long.—HAB. Jamaica (*Sw.*); [Cuba! to Portorico; Panama! to Brazil!].

189. **A. cultrifolium,** *L.* Leaf pinnatisect: *segments lanceolate-acuminate, serrate* or crenate-serrate, upward auricled or produced, and dimidiate-truncate at the base, lowest conform: *rhachis margined:* veins dichotomous, branches terminated near the margin with a thickened summit: *petiole pale or becoming brown; sori linear, distant from the midrib and more so from the margin.*—*Plum. Fil. t.* 59.—Segments variable, thickish in dry, flaccid in moist situations, 3″–1″ long, 6‴ broad above the auricle.

α. Segments flaccid-herbaceous, with a deltoid auricle: petiole becoming brown or black.—A. riparium, *Liebm. ex Hook. Spec. t.* 169. *f.* 1–3. A. auriculatum, *Eat. Pl. Wr.* 1026.

β. auriculatum, Sw., Hook.! Segments firm-herbaceous, with a large, roundish auricle: petiole pale or tardily becoming pale-brown.—*Hook. Spec. t.* 171.—A. cultrifolium, *Sieb. Mart.* 365 (A. salicifolium, *Kaulf.*). A. falx, *Desv., Kze.!* A. semicordatum, *Radd.* A. gibbosum, *Fée.*

γ. Moorianum. Segments firm-herbaceous, upwards angled at the base or nearly devoid of an auricle: petiole becoming brown below.—A. cultrifolium, *Hook.!* (Diplazium, *Moore!*).—Leaf often pinnatifid at the summit.

HAB. Jamaica!, *Wright* (γ); Dominica!, *Imr.* (β), S. Vincent!, *Guild.* (β); Trinidad!, *Pr.* (γ)! [Cuba! and Mexico! to Brazil!].

A. sanguinolentum, Kze. (syn. *A. anisophyllum*, var. *americanum*, Eat. Pl. Wr. Cub. 845), distinguished from *A. cultrifolium*, L., by oblong (3‴ long) sori, tumid indusia, and the segments oblique at the base, but devoid of large auricles, grows probably in the British islands, as it occurs in Cuba! and in Venezuela! (*A. salicifolium*, Moritz!].

190. **A. firmum,** *Kze.* Leaf pinnatisect: segments *lanceolate or oblong, bluntish at the tapering point, duplicato-crenate-serrulate,* dimidiate-cuneate (rarely auricled-truncate) at the base, lowest conform: *rhachis margined:* veins forked, inferior dichotomous, branches terminated near the margin with a slightly thickened summit: *petiole pale; sori* linear, *distant from the midrib and more so from the margin.—Hook. Spec. t.* 174.—A. abscissum, *Kl.!, Metten.!, W.* (*ex parte*).—Little distinct from the preceding by bluntish segments; segments 2″–1″ long, 6‴ broad; sori 2‴–1½‴ long.—HAB. Jamaica!, *Pd.*; [Cuba! to French islands; Mexico! to Brazil!].

191. **A. lætum,** *Sw.* Leaf pinnatisect: *segments trapezoid-oblong, blunt or bluntish at the summit,* duplicato-crenate-serrate along the upper margin and round the summit, dimidiate-truncate and upwards angled or slightly auricled at the base, lowest conform: *rhachis margined:* veins forked and simple, lowest dichotomous, branches terminated near the base of the serratures with a thickened summit: *petiole purple; sori* linear, intermediate between the midrib and the margin.—*Schk. Crypt. t.* 70. *Hook. Spec. t.* 173.—A. abscissum, *Radd.* (*ex Pl. Spruce.*), *W.* (*ex parte*). A. Schkuhrianum, *Pr.*—Segments 1″–1½″ long, 6‴ broad at the base; sori 1½‴–2½‴ long.—HAB. Jamaica!, *Wils.*; Dominica!, *Sieb.*, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! to French islands!; Mexico! to Brazil!].

192. **A. obtusifolium,** *L.* Leaf pinnatisect: *segments oblong* or oblong-lanceolate, *bluntish,* serrate, upward produced or auricled and dimidiate-truncate at the base, lowest conform: *rhachis flattish,* broader near the base of the segments: veins dichotomous or forked, branches almost excurrent into the serratures with a thickened summit: *petiole brown; sori* linear, *intermediate* between the midrib and margin.—*Plum. Fil. t.* 67. *Hook. Grev. Ic. t.* 239. *Hook. Spec. t.* 169. *f.* 4.—Segments nigrescent, 2″–1″ long, 8‴–10‴ broad above the auricle; sori 4‴–3‴ long.—HAB. Dominica!, *Imr.*, in moist places; [French islands!, *Sieb. Mart.* 363; Mexico to New Granada! and Brazil].

193. **A. alatum,** *Kth.* Leaf pinnatisect: *segments oblong* or ovate-oblong, *bluntish, appressed-serrate* or duplicato-serrate, contracted at the oblique or subequal, rounded base, lowest shorter: *rhachis winged:* wing decurrent along the pale or rusty petiole: veins forked, terminated within the serratures with a slightly thickened summit; *sori* linear, *distant from the midrib* and *more so from the margin.—Hook. Grev. Ic. t.* 137.—Segments 1″–1½″ long, 4‴–8‴ broad, superior gradually decrescent; sori 2‴–1½‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Bancr.*; S. Vincent!, *Guild.*; [Venezuela! to Brazil!].

194. **A. marinum,** *L.* Leaf pinnatisect: *segments oblong* (-ovate) *or oblong-lanceolate, blunt* or bluntish, serrate or duplicato-serrate, truncate at the upper, cuneate at the lower side of the base, lowest shorter: *rhachis margined, winged above:* veins forked, terminated near the base of the serratures with a thickened summit: *petiole shining-purple or black; sori oblong, intermediate* between the midrib and margin: indusium tapering at the extremities.—*Sl. t.* 33. *f.* 1. *Schk. Crypt. t.* 68. *inf.*—Segments 8‴–14‴ long, 4‴ broad at the base; sori 2‴–1‴ long.—HAB. Jamaica (*Sl.*), on the rocky coast near Bath; S. Vincent (*Hook.*); [coasts of the Atlantic from Orkney islands to S. Helena, and New Brunswick to South Brazil].

195. **A. lunulatum,** *Sw.*, *Kze.* Leaf pinnatisect: *segments* numerous, *oblong, blunt,* crenate-terete along the upper margin and round the summit, dimidiate-truncate at the base, lowest shorter: *rhachis subterete, narrowly winged:* veins forked and simple, lowest dichotomous, branches terminated near the base of the serratures: *petiole pale or pale-purple,* margined; *sori* linear, *intermediate* between the midrib and margin: indusium rounded at the extremities.—*Radd. Fil. Bras. t.* 51. *f.* 1.—A. erectum, *Bory, Hook., Eat. Pl. Wr.* (*non Metten.*). A. brasiliense, *Radd.*—Segments 7‴–10‴ long, 2‴–4‴ broad; sori 2‴ long.—HAB. S. Vincent!, *Guild.*; [Cuba! to Brazil!; East Indies to the Cape].

196. **A. harpeodes,** *Kze.* Leaf pinnatisect: *segments* numerous, *oblong-lanceolate, acuminate,* serrate, dimidiate-truncate at the base, lowest shorter: *rhachis subterete, margined:* veins forked, lowest dichotomous, branches terminated within the serratures: *petiole purple,* margined; *sori* linear, *little distant from the midrib and more so from the margin. Hook. Spec. t.* 178.—A. erectum, *Metten.!* A. erectum, γ, *Hook.*—Segments 8‴–14‴ long, 3‴–5‴ broad; sori 2‴ long.—HAB. Jamaica!, *Macf.*, *Pd.*, *Wils.*; [Mexico! to Peru!; trop. Africa to the Cape!, Australia].

†† *Sori flabellate : no midrib ; leaf coriaceous.*

197. **A. dimidiatum,** *Sw.* Leaf pinnatisect, coriaceous : *segments rhomboid* or rhomboid-oblong, irregularly serrate at the upper margin, *incised or unequally 2-fid at the acuminate summit*, obliquely cuneate at the dimidiate base, lowest conform : rhachis flattish, convex beneath : *no midrib : veins flabellate*, narrowly dichotomous : *petiole blackish ;* sori linear, radiating, unequal in length and distance from the base.—*Kze. Farnkr. t.* 48. *Metten. Fil. Lips. t.* 13. *f.* 22.—A. zamiifolium, *Kze.*—Segments 3″–1″ long, 1″–6‴ broad; longest sori 8‴–12‴ long, irregular in their position toward the indusium.—HAB. Jamaica!, *Macf.*, *Wiles*, *Shepherd ;* [Cuba! to Peru!; trop. Africa!].

††† *Sori close to the midrib below ; leaf coriaceous-chartaceous.*

198. **A. erosum,** *Metten.*, *Hook.* (*non L.*). Leaf pinnatisect, coriaceous : *segments trapezoid-lanceolate or lanceolate-linear*, acuminate, irregularly serrate or inciso-serrate above the obliquely cuneate base, lowest conform : rhachis channelled, convex beneath : veins narrowly dichotomous or forked, nearly excurrent : *petiole pale or pale-brown ; sori linear, extending from near the midrib to the serratures.*—*Hook. Spec. t.* 198.—A. salicifolium, *L.* (*Plum. Fil. t.* 60), is probably this species, but it is useless to restore old names in *Asplenium*, as absolute certainty is not to be attained, and often allied species were formerly not distinguished. A. falcatum, *Sw. sec. Kze.* (*non Lam.*).—Segments 2″–4″ long, 7‴–3‴ broad above the base; sori 6‴–9‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, *March*, in mountain woods; [Cuba! Haiti].

199. **A. Serra,** *Langsd.*, *Fisch.* Leaf pinnatisect, chartaceous : *segments long, lanceolate-acuminate or oblong-lanceolate*, sharply and unequally serrate above the cuneate or upward produced, often petiolulated base, lowest conform : rhachis channelled, convex beneath : veins narrowly dichotomous, excurrent : *petiole brown ; sori oblong, approximate to the midrib*, and mostly subparallel to it, *much distant from the margin.*—A. zamiifolium, *Pl. Carib.* (*exclus. syn.*) : the broad-leaved *A. Serra*, *β. Imrayanum*, Hook.! A. erosum, *Sw.?*—Segments 4″–6″(–10″) long, 8‴–20‴ broad; sori 4‴–6‴(–12‴) long.—HAB. Jamaica!, *Pd.*, *Wils.;* Dominica!, *Imr.;* [Cuba to French islands!; Venezuela! to Brazil!; trop. Africa!].

200. **A. auritum,** *Sw.* Leaf pinnatisect, chartaceous : *segments* lanceolate-linear or oblong-lanceolate, usually acuminate, upwards auricled at the cuneate base, inferior mostly *pinnatipartite at the auricle*, or with the divisions decrescent toward the serrulate apex, lowest conform : rhachis margined above or to the base : veins forked, inferior dichotomous, branches terminated near the margin : *petiole pale ; sori oblong, approximate to the midrib below, oblique, distant from the margin.*—*Sl. t.* 33. *f.* 2. *Schk. Crypt. t.* 130. *b. sup. dextr.*—A. erosum, *L.* (*ex. ic. Sl.*).—Variable ; segments 1″–3″ long, 2‴–6‴ broad above the auricle; sori usually 1½‴–2‴ long, often confluent.

α. Segments divided only at or near the auricle, or serrulate only.—A. umbrosum, *Kaulf.*

β. recognitum, Kze. Segments pinnatipartite-pinnatifid.—*Plum. Fil. t.* 46. *Metten. Fil. Lips. t.* 9. *f.* 5. 6.—A. dispermum, *Kze.*

HAB. Jamaica!, *Pd.*, *Bancr.*, on trees (*α*); Dominica!, *Sieb.*, *Imr.* (*α*, *β*); [Cuba! to French islands!; Mexico! to Brazil!; Galapagos!; East Indies!].

201. **A. bissectum,** *Sw.* Leaf pinnatisect, chartaceous : *segments* lanceolate-linear, narrowly acuminate, obliquely cuneate at the base, *pinnatifid*, lowest shorter : *inferior lobes inciso-2-dentate :* rhachis slightly channelled, convex beneath : veins forked, lowest dichotomous, branches much produced into the teeth : *petiole purplish-brown ; sori linear-oblong, approximate to the midrib*, subparallel to it, *much distant from the* margin.—*Hook. Spec. t.* 192.—Segments 2″–3″ long, 3‴–6‴ broad at the base, dark-green; sori 1½‴–2‴ long.—HAB. Jamaica!, *Macf.*, *Wiles ;* [Cuba! to Venezuela].

202. **A. furcatum,** *Thunb.* Leaf pinnatisect, coriaceous, often hairy beneath : *segments pinnatipartite*, lowest conform : *special segments* cuneate-rhomboid or linear, *incised or dentate* at the summit (–pinnatifid) : rhachis villous-paleaceous, narrowly channelled, convex beneath : veins flabellate, narrowly forked or dichotomous, nearly excurrent : *petiole dark-brown ; sori linear, approximate-confluent, subparallel or little radiating, innermost lining the inconspicuous midrib.*—*Hook. Grev. Ic. t.* 189.—A. præmorsum, *Sw.* : the oldest

name (1788), but regarding only a special form with truncate segments.—Variable chiefly in the broad, or narrow, acuminate, or blunt, or truncate segments, the primary ones 1″–3″ long, secondary spreading, terminal often narrowly acuminate.—HAB. Jamaica !, *Macf.*, *Pd.*, in high mountains, on rocks, at 5000′ alt.; S. Vincent !, [all tropical countries to Madeira and the Cape !].

** *Leaf 3-pinnatipartite; indusium ciliate.*

203. **A. pumilum,** *Sw.* *Leaf 3-partite* (–pinnatipartite), deltoid, herbaceous, often hairy beneath or ciliate: segments ovate or deltoid, unequally serrate or pinnatifid: veins dichotomous or forked, terminated near the margin: *petiole pale, brown below; sori linear, distant from the midrib, and more so from the margin:* indusium ciliate.—*Plum. Fil. t.* 66. *A:* a form with blunt segments.—A. anthriscifolium, *Jacq.*: the form with pinnatipartite leaves.—3″–6″(–10″) high; inferior segments 8‴–16‴ long, 6‴–10‴ broad, usually pointed.—HAB. Jamaica !, *Macf.*, *Pd.*; S. Vincent !, *Guild.*; [Cuba ! to French islands !, *Sieb. Mart.* 361; Mexico ! to Venezuela !; Abyssinia !].

§ 3. *Veins simple, pinnate, lowest forked.*—Leaf herbaceous, pinnatisect-pinnate-3-pinnatisect (*Cænopteris*).

204. **A. dentatum,** *L.* *Leaf pinnatisect: segments* subdistant, *cuneate-elliptical* (or roundish), blunt, *dentate above, lowest smaller:* rhachis green-margined: veins few, simple, slender, terminated at the base of the teeth, lowest forked: *petiole pale* or brown at the base; *sori oblong,* intermediate between the margin and the flexuose midrib.—*Plum. Fil. t.* 101, *dextr. inf.* *Hook. Grev. Ic. t.* 72.—A. pygmæum, *L. sec. Sw.*—3″–8″ high; segments 3‴–6‴ long, 2‴–4‴ broad.—HAB. Jamaica !, all coll., on walls; [Cuba ! to French islands !; Mexico !].

205. **A. Trichomanes,** *Huds.* *Leaf pinnate: leaflets oval, crenate,* cuneate or truncate at the oblique or upward produced base, *lowest* subdistant, *smaller:* rhachis scarious-margined: veins few, simple, lower (or most) forked: *petiole black;* sori oblong (or half-oval), intermediate between the margin and the flexuose midrib.—*Schk. Crypt. t.* 74.—By the veins sometimes most forked (*A. anceps,* Sol.) it passes into the preceding series, but in habit stands next to *A. dentatum.*—HAB. Jamaica !, *Macf.*, *Pd.*; [northern temperate and tropical zones of the globe].

206. **A. formosum,** *W.* *Leaf pinnate: leaflets oblong-lanceolate,* bluntish, *dimidiate-truncate at the base, pinnatifid and obtusely serrate* at the upper margin and round the apex, *lowest* distant, *small:* rhachis scarious-margined: veins simple, lower forked, terminated within the serratures: *petiole black;* sori oblong–half-oval-oblong, extending from near the midrib to the base of the serratures.—*Plum. Fil. t.* 66. *B.*—A. nanum, *W.*—6″–12″ long, shortly petioled; segments usually 6‴–8‴ long, 2‴–3‴ broad.—HAB. Jamaica !, *Wils.*; [Cuba ! to French islands !, *Sieb. Mart.* 246; Mexico ! to Brazil !; Galapagos !; trop. Africa and Asia].

207. **A. pteropus,** *Kaulf.* *Leaf pinnatisect:* segments spreading, *oblong, pointed, serrate,* dimidiate-truncate and upwards auricled at the base, *lowest gradually smaller:* rhachis margined: veins simple, lowest forked: *petiole* margined, *pale* or pale-brown beneath; sori oblong, distant from the midrib, and more so from the margin.—*Hook. Spec. t.* 177.—1′–1½′ high; most segments 1″ long, 3‴ broad.—HAB. Jamaica !, *Al.*; S. Vincent !, *Guild.*; [Portorico ! to Guadeloupe !; Venezuela ! to Ecuador ! and Brazil !].

208. **A. fragrans,** *Sw.* *Leaf 2–3-pinnatisect:* primary *segments* subdistant, *lowest conform, ultimate lanceolate, inciso-serrate above:* rhachis flattish: veins simple, lowest forked: petiole pale or brown; *sori oblong,* extending from the midrib to near the base of the lobes, subparallel to the former.—*Hook. Grev. Ic. t.* 92.—A. fœniculaceum, *Kth.* A. delicatulum, *Pr.*—3″–8″ high; primary segments 6‴–15‴ long.—HAB. Jamaica !, *Macf.*, *Pd.*, *Al.*, common; Dominica !, *Imr.*; [Cuba ! to French islands !; Mexico ! to Ecuador !].

209. **A. rhizophorum,** *L.* *Leaf 2-pinnatisect* or *pinnatisect,* proliferous at the summit: *primary segments* oblong-lanceolate, undivided and serrate–2-*pinnatipartite, lowest conform,* secondary and tertiary ones cuneate-elliptical or obovate: *rhachis devoid of a membranaceous margin:* veins simple, lowest forked: *petiole shining-brown* or purple; *sori oblong,* intermediate between the midrib and margin: *indusium narrow.*

a. cirrhatum, Rich. Primary segments undivided or pinnatifid below, dimidiate-truncate or upwards auricled at the base, 1″(–2″) long, 3‴(–6‴) broad.—*Hook. Spec. t.* 187. *A. B. Metten. Fil. Lips. t.* 10. *f.* 3. 4: passing into *β*.—A. rhizophorum, *Sw. Synops.* A. Karstenianum, *Kl.* (*Pl. Lechl.* 2295).

β. radicans, Sw. (sec. Moore). Primary segments pinnatipartite-pinnatisect, 3″ long, 8‴–12‴ broad, secondary undivided, serrulate.—*Sl. t.* 52. *f.* 3. *Hook. Spec. t.* 187. *C.*—A. rhizophorum, *Sw. Obs.* Cænopteris rhizophylla, *Sw.* (*ex Ic. Sl.*).

γ. cicutarium, Sw. (non Metten.). Primary segments pinnatisect, secondary pinnatifid or pinnatipartite at the base: proportions as in *β*.—*Hook. Spec. t.* 187. *D.*—A. rhachirhizon, *Radd.* (*Pl. Spruce.* 4021). A. flabellulatum, *Kze.* (*Pl. Moritz.*): the homonym in *Pl. Lechl.* 2029, is var. *δ*. (secondary segments pinnatipartite to the cuneate summit), from which I know not how to distinguish but by short sori A. rutaceum, *Metten.* (*Plum. Fil. t.* 57; *Hook. Cent.* 2. *t.* 34).

Hab. Jamaica!, *Macf.*, *Pd.*, *Bancr.* (*α*, *β*, *γ*); Trinidad!, *Cr.*; [Cuba! and Mexico! to Brazil! and Peru!].

210. **A. cuneatum,** *Lam. Leaf 2-pinnatisect:* primary *segments* oblong-lanceolate, *lowest conform*, secondary cuneate-obovate, dentate above, lower 2-partite-lobed at the base: *rhachis devoid* of a *membranaceous margin:* veins simple, lower forked: petiole pale or brown; *sori linear*, intermediate between the midrib and the base of the teeth.—*Sl. t.* 46. *f.* 2. *Schk. Crypt. t.* 78. *dextr.*—A. martinicense, *W.*—Ultimate segments 3‴–6‴ long, 2‴–3‴ broad.—Hab. Jamaica!, *Macf.*; S. Vincent!, *Guild.*; Trinidad!, *Cr.*; [Cuba! to Brazil, and other tropical countries to the Cape].

211. **A. Fadyeni,** *Hook. Leaf 2-pinnatisect below*, pinnatisect above: primary *segments* oblong-lanceolate or lanceolate, *lowest conform*, secondary cuneate-obovate, dentate above, lower 3-partite at the base: *rhachis slender:* veins simple, lower forked; *sori oblong*, intermediate between the midrib and the base of teeth: *indusium broad.*—*Hook. Cent.* 2. *t.* 27.—Little known, and to be compared with *A. rhizophorum*, from which it differs by the rhachis not being proliferous; habit of the preceding, but sori short.—Hab. Jamaica!, *Macf.*

212. **A. myriophyllum,** *Spreng. Leaf* 3(–2)*-pinnatisect:* primary segments approximate, divided to the base, *lowest much decrescent*, ultimate cut into lanceolate or ovate, rounded-pointed lobes: *rhachis green-margined* or winged: veins simple: petiole pale or pale-brown; *sori half-elliptical* or shortly oblong, entering into the lobes.—*Hook. Gen. t.* 6; *Cent.* 2. *t.* 41. *Metten. Fil. Lips. t.* 13. *f.* 3–9.—Cænopteris, *Sw.* A. cicutarium, *Sieb. Mart.* 360, *Hook.!*, *Metten.* (*non Sw.*). A. monteverdense, *Hook.!* A. rhizophyllum, *β*, *Hook.!* A. dissectum, *Lk.*—Ultimate lobes 1‴ or less long; sori usually less than 1‴ long.

α. Leaf 3-pinnatisect.

β. Macræi, Hook. Grev. Leaf 2-pinnatisect.—*Hook. Grev. Ic. t.* 193 and 217. A. rhizophyllum, *Kze.*, *Hook. α.* (*exclus. syn. Sl. and Sw.*): leaf not proliferous at the summit.

Hab. Jamaica!, all coll.; Dominica!; Trinidad!, *Woodford*; [United States; Cuba! and Mexico! to Brazil!; Pacific islands!; trop. Africa! to the Cape!].

213. **A. adiantoides,** *Radd. Leaf 3-pinnatisect: primary and secondary segments distant, petiolulate*, ultimate cuneate-rhomboid, lobed and dentate above with rounded-pointed teeth: rhachis slender, devoid of a membranaceous margin: veins simple: petiole pale or pale-brown; *sori oblong*, distant from the midrib, and more so from the point of lobes.—*Radd. Fil. Bras. t.* 51. *f.* 2.—Ultimate segments 4‴–7‴ long.—Hab. Jamaica!, *Macf.* [Brazil!].

Sect. 2. Diplazium, *Sw.—Inferior or most sori double.*

* *Leaf undivided: veins dichotomous.*

214. **A. plantagineum,** *L. Leaf oblong-lanceolate*, pointed, *cuneate at the base*, serrate above or subentire: veins costate, dichotomous, terminated near the margin: petiole slender, pale; sori linear, unequal in length, often alternately distant from the midrib, inferior double.—*Schk. Crypt. t.* 85. *sin. Hook. Gen. t.* 55. *B. f.* 1.—Diplazium, *Sw.*—

Leaf 6″–8″ long, 1½″–2″ broad.—HAB. Jamaica !, *Pd.*, *Shepherd*; [Guadeloupe !; Mexico ! to Brazil !].

** *Leaf pinnatisect–2-pinnatisect; sori extending to or beyond the middle.*

† *Veins alternately dichotomous, lowest penultimate ones on the inferior side of the rib; leaf stout, pinnatisect.*

215. **A. celtidifolium,** *Metten.* Leaf pinnatisect: *segments oblong-lanceolate,* shortly acuminate, *truncate at the equal base,* subsinuate-repand, horizontal: *veins dichotomous, fertile at the inferior, anterior, and posterior branches*; *sori* linear, *distant about half-way from the margin,* 2 inferior approaching the midrib, mostly double.—*Metten. Fil. Lips. t.* 12. *f.* 3. 4: a leaf-segment, distinguished from our form by a serrulate margin.—Diplazium, *Kze.*—"Stem 2′ high, inclined to be arborescent" (*Pd.*); segments 4″–5″ long, 1″ broad.—HAB. Jamaica !, *Macf.*, *Pd.*; Trinidad !, *Pd.*; [Venezuela !, New Granada !; Brazil].

216. **A. grandifolium,** *Sw.* Leaf pinnatisect: *segments oblong-lanceolate,* shortly acuminate, *rounded-subtruncate at the equal base,* repand or crenate: *veins dichotomous, fertile at the* anterior and posterior *distant branches*; *sori* linear, *extending to a small distance from the margin,* anterior inferior approaching the midrib, double, superior simple, distant from the midrib.—*Metten. Asplen. t.* 5. *f.* 3: part of a segment.—Hemionitis, *Sw.* Diplazium, *Sw.*—Proportions of the leaf as in the preceding, but "petiole from the root" (*Sw.*).—HAB. Jamaica !, *Macf.*, *Al.*, *Wils.*; Trinidad !, *Woodford*; [Cuba ! to Brazil !].

†† *Veins forked-dichotomous or pinnately divided, free, lowest all on the superior side of their rib; leaf pinnatisect.*

217. **A. juglandifolium,** *Lam.* (*non Hook.*). Leaf pinnatisect: *segments oblong-lanceolate* or lanceolate-oblong, shortly acuminate, cuneate or rounded at the base, repand-entire or serrulate above: *veins* dichotomous in the terminal, most 2-partite in the lateral segments, *fertile at the anterior inferior* (rarely also at the posterior) *branches*; *sori* linear, *intermediate between the midrib and margin, all or inferior approaching both,* inferior of the terminal segment double, those of the lateral segments simple.—*Sl. t.* 37. *Schk. Crypt. t.* 85. *dextr.*—From Hooker's homonym I exclude Sloane's figure: for its sori (all anterior and double) do not extend to near the margin, and the penultimate lowest veins are at the inferior side of their rib (Fendl. Pl. Venez. 498, Spruce, Pl. Ecuad. 5337: *A. Fendlerianum,* Gr.).—Diplazium, *Sw.* A. Rœmerianum, *Kze.*—Stout; segments 6″–8″(–4″) long, 2″–1½″(–1″) broad.—HAB. Jamaica !, *Wils.*; [Cuba !, *Wr.* 1037, to Peru !].

218. **A. semihastatum,** *Kze.* Leaf pinnatisect: *segments lanceolate or ovate-lanceolate,* bluntish, *upwards auricled* at the cuneate base, serrulate or pinnatifid-pinnatipartite below: *veins* forked above, superior simple, lowest pinnately divided, *fertile at the anterior,* in the auricle also at the posterior *branches*; *sori* linear, *intermediate between the midrib and margin, distant from both,* inferior (or few) double.—*Metten. Asplen. t.* 4. *f.* 17. 18: leaf-segments. *Hook. Spec. t.* 207.—A. cubense, *Hook.!* A. hymenodes, *Metten.* (*l. c. t.* 5. *f.* 18. 19): the form with broader, blunt, towards the base divided segments. Diplazium angustifrons, *Pr.*—1′–2′ high; segments 1″(–2″) long.—HAB. Jamaica (*Sw.*); [Cuba !].

219. **A. auriculatum,** *Metten.* (*non Sw.*). Leaf pinnatisect: *segments lanceolate or oblong-lanceolate,* acuminate or bluntish, *upward auricled* at the obliquely cuneate base, sinuate or slightly pinnatifid to one-fourth: *lobes dentate-serrulate*: *veins* dichotomous, *fertile at the lowest anterior,* in the auricle also at the posterior *branches*; *sori* linear, *approaching the midrib* at their base, *distant from the margin,* inferior (or few) double.—Diplazium, *Kaulf.* A. arboreum, *W. sec. Kaulf.*: but not arboreous, *Hook.!* (*ex Wr. Cub.* 1034).—1½′–2′ high; segments 2″–4″ long, 8‴–12‴ broad.—HAB. Jamaica !, all coll.; S. Vincent !, *Guild.*; [Cuba ! to Brazil].

220. **A. Shepherdi,** *Spreng.* Leaf pinnatisect: *segments* oblong-lanceolate, acuminate, *inferior pinnatifid to the middle*: *lobes ovate,* bluntish, *appressed-serrulate,* gradually decrescent and passing into serratures in the superior segments: *veinlets* pinnate, most forked above, *anterior inferior or most fertile*; *sori* linear, *inferior approaching the midrib at their base, all distant from the margin,* inferior in the superior segments (or few) double.

—*Radd. Fil. Bras. t.* 54: the form with 2-serial, 54-*bis*: the younger state with single sori. *Hook. Gen. t.* 55. *f.* 3: superior segments.—A. striatum, *L. Herb.* (compared by Shepherd), *Hook.!* (*Wr. Cub.* 1035, *Spruce, Peruv.* 4758): from the synonyms given in Hook. Spec. Fil. I exclude: 1° Plum. Fil. t. 18. 19 (the origin of *A. striatum*, L. Spec., Metten.). 2° *A. caracasanum*, W. (Fendl. Venez. 129. β: all sori confined to the upper part of their veinlet, hence distant from the rib and approaching the margin), Metten. Asplen. t. 5. f. 17. 3°. *A. decurtatum*, Kzc.! (proving to be Spruce, Peruv. 4755: segments deeply pinnatifid to near the rhachis, sori oblong, 1‴ long, distant from the rib, while they approach it in the allied *A. thelypteroides, Mich.*: both producing a few Athyrium-sori belong to that section).—1½′–3′ high; lowest segments longest, 6″ long, 1½″ broad; longest sori 4‴ long.—Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.*, Barbadoes!, *Shepherd;* [Cuba! to Brazil!].

††† *Veins pinnately divided, lowest penultimate ones on the inferior side of their rib; leaf stout.*

221. **A. costale,** *Sw.* Leaf pinnatisect: *segments* oblong-lanceolate, acuminate, *pinnatifid to the middle*, inferior beyond it: lobes oblong, blunt (or subfalcate-pointed), serrulate above: *veinlets* pinnate, simple or 2-partite, *most fertile*, lowest contiguous at the narrow sinus; *sori linear, 2 lowest close to the midrib*, the other to the vein, *all extending halfway to the margin of the lobe*, lowest anterior double.—Segments usually 8″–12″ long, 3″–4″ broad; lowest sori 4‴ long.—Hab. Jamaica!, *Wils.;* [New Granada!, Ecuador!].

222. **A. striatum,** *L. sp.* (*ex Plum.*), *Metten. Asplen.* (*non Hook.*). Leaf pinnatisect–2-pinnatisect: primary *segments* oblong-linear, acuminate, *pinnatifid* to the middle, *inferior* (or most) beyond it, or usually *pinnatipartite*, pinnatisect below: lobes oblong, blunt, serrulate above or serrate: *veinlets* pinnate, simple, or lower forked and dichotomous, *most fertile*, lowest distant at the sinus; *sori linear, approximate to the vein, extending two-thirds as far as the distance of the margin of the lobe*, lowest anterior double.—*Plum. Fil. t.* 18. 19.—A dubium, *Hook.!* (*exclus. synon. Schk.* etc.).—Intermediate between *A. costale* and *A. radicans*, distinguished from the former by narrower segments; sori 2‴ long.

α. Leaf pinnatisect, or the lowest segments pinnatisect again at the base: lower segments 6″–8″ long, 1½″ broad.—A. dubium, *var.* pinnato-pinnatifida, *Hook., e.g. Wr. Cub.* 847: other forms are Wr. Cub. 1038. 1044.

β. *bipinnatisectum.* Leaf 2-pinnatisect below with slightly pinnatifid secondary segments: middle primary segments pinnatipartite, superior pinnatifid, lower 10″–12″ long, 2″–3″ broad.—A. dubium, *Hook., e.g. Wr. Cub.* 1039. A radicans, *Hook. Gen. t.* 55. *f.* 4 (*non Schk.*).

Hab. Jamaica!, *Pd.;* S. Vincent!, *Guild.;* [Cuba! to French islands!; Mexico! to Brazil!].

223. **A. radicans,** *Schk.* *Leaf 2-pinnatisect: segments* oblong-linear, acuminate, *secondary inferior pinnatifid* to the middle: lobes oblong or subquadrate-oblong, serrulate, subtruncate-blunt, superior passing into serratures: *veinlets* pinnate, *most fertile*, simple, lower distant at the narrow sinus; *sori oblong-linear, lowest anterior* double, *approximate to the midrib, all extending from the vein as far as close to the margin of the lobe.*—*Schk. Crypt. t.* 76: the summit of the leaf, the primary segments of which are pinnatipartite.—A. dubium, *Metten., Hook. ex parte, e.g. Fendl. Venez.* 436: but I regard Raddi's figure (t. 58), quoted by Mettenius, as doubtful, and exclude also *A. bulbiferum*, Bernh. (N. Act. Erford. 1802, Asplenium, f. 7), agreeing in the sori, but not in the entire, subdistant special segments.—Lower primary segments 8″–12″ long, 4″–6″ broad, secondary inferior 2″ long, 8‴ broad; lowest sori 3‴ long.—Hab. Jamaica! (*W.*); [Venezuela! to Brazil].

*** *Leaf 2-3-pinnatisect; sori short; veins pinnately divided, free,*

224. **A. australe,** *Brackenr.* Leaf 2-pinnatisect, deltoid at the base: *secondary segments pinnatifid* to the middle, inferior beyond it, *equal at the base:* lobes oblong, blunt, serrulate or subentire: veinlets pinnate, simple, most fertile; *sori oblong*, extending from the vein to or beyond the middle of the lobe, lowest anterior double; *indusium convex*, often lacerate.—*Schk. Crypt. t.* 61. *Hook. Ic. t.* 978.—Allantodia, *R. Br.* A. Brownii, *Hook.* A. hians, *Metten., Hook.!* (Diplazium, *Kze.*). A. sylvaticum, *Moore* (*ex Hook. Pl. Ind.*

Or.). Aspidium umbrosum, *Sw.*, *Schk.* (*non W.*).—Lowest primary segments 1′ long, 3″–4″ broad; sori 1‴–½‴ long.—Hab. Jamaica!, *Pd.*; [Venezuela!, Ecuador!! Pacific islands to New Zealand, Australia and East Indies!].

225. **A. Franconis,** *Metten.* Leaf 3–2-pinnatisect, "oblong:" *ultimate segments pinnatifid-serrate, upward produced* at the base: veinlets pinnate, simple or forked, most fertile; *sori linear*, extending from near the vein to or beyond the middle of the segment, lowest anterior mostly double; *indusium flattish.*—*Metten. Asplen. t.* 5. *f.* 30: a leaf-segment.—Diplazium, *Liebm.*: leaf "2-pinnatisect," while it is usually 3-pinnatisect in the Jamaica Fern.—Habit of *A. fuscopubescens*, Hook. (Spruce, 5416), which I refer to *A. alienum*, Metten. Primary segments "4″–7″ long, 2″ broad;" sori 2‴–1‴ long.—Hab. Jamaica!, *March*; [Mexico to Peru].

Sect. 3. Athyrium, *Rth.*—*Sori shortly oblong or half-oval, inferior (or several) produced beyond the vein at their extremity and there supported by the auricle of the arcuate indusium.*

This section is known to pass into *Aspidium*: I adopt the arbitrary limits proposed by Mettenius, retaining in *Asplenium* those species where the indusium is lateral, and, though often shortly, decurrent along its vein.

226. **A. conchatum,** *Moore. Leaf pinnatisect*, ovate-oblong: *segments* oblong-linear, *pinnatipartite*, superior deeply pinnatifid: *lobes or special segments oblong, blunt*, serrate or serrulate: veinlets pinnate, simple, lowest veins on the inferior side of their rib; *most sori shortly oblong or half-oval:* indusium convex.—*Fée, Polypod. t.* 17. *C. f.* 1. 3.—Hypochlamys pectinata, *Fée.*—Primary segments 6″–12″ long, 1½″ broad; sori ½‴ long.—Hab. Jamaica!, *Pd.*, *Al.*, *Wils.*; [Cuba!, *Wr.* 1045; Haiti!].

Series 3. **Aspidieæ.**—*Sori confined to special points on the back of the leaf.*

Subseries 1. **Euaspidieæ.**—*Receptacle flat. Sporangia with a vertical, usually incomplete ring.*

38. MENISCIUM, *Schreb.*

Sori shortly arcuate, inserted into the anastomosis of special veinlets, meeting between costate veins, naked.—Leaf *usually pinnatisect:* intercostal vein-arches *with a free appendage;* sori *special between the veins, often confluent.*

227. **M. reticulatum,** *Sw.* Leaf pinnatisect: *segments oblong-lanceolate or lanceolate*, acuminate, *crenulate-repand* or repand, obliquely rounded or cuneate at the subsessile, or shortly petiolulated base: arches between the veins 12–15.—*Plum. Fil. t.* 110. *Schk. Crypt. t.* 5.—Polypodium, *L.*—Segments 4″–8″(–10″ long).

α. Segments oblong-lanceolate, most subsessile, 1″–1½″ broad: rhachis puberulous.

β. sorbifolium, W., Kze. Segments lanceolate, inferior shortly petiolulate, 10‴–12‴ broad: rhachis glabrescent.—M. Kapplerianum, *Fée!*

Hab. Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Lockh.*; [French islands!; Mexico! to Brazil!; Fernando Po!].

228. **M. angustifolium,** *W.* Leaf pinnatisect: *segments* numerous, *lanceolate-linear*, acuminate, *entire*, obliquely cuneate or rounded at the petiolulated or subsessile base: arches between the veins 6–8.—M. sorbifolium, *Eat.* (*Pl. Wr.* 781).—Segments 5″–6″ long, 6‴–8‴ broad.—Hab. Jamaica!, *Wils.*, *Pd.*, on stones, in river-courses; [Cuba!, Panama! to Venezuela!].

229. **M. serratum,** *Cav.* Leaf pinnatisect: *segments lanceolate*, acuminate, *sharply serrate*, obliquely rounded at the subsessile base: arches between the veins 6–8.—Segments 5″–7″ long, 10‴–12‴ broad.—Hab. Trinidad!, *Lockh.*, *Sch.*; [Mexico to Brazil!].

39. DIDYMOCHLÆNA, *Desv.*

Sori oval, inserted into the thickened extremity of a veinlet: *indusium* above the sorus, proceeding from the oblong middle part of the receptacle, free at the sides.—An arboreous

Fern; frond 2-*pinnate*: leaflets *adiantiform*: veins *dichotomous, free*; sori *in a line, parallel to the margin.*

230. **D. lunulata,** *Desv.—Plum. Fil. t.* 56. *Kze. Farnkr. t.* 84. *Hook. Gen. t.* 8.—Adiantum, *Houtt.* Aspidium truncatulum, *Sw.*—Leaflets dimidiate-trapezoid, blunt, 10‴–6‴ long; sori either juxtamarginal or distant from the margin.—HAB. Trinidad!, *Cr.*; [Cuba! to Brazil!; Pacific islands!; trop. Asia! and Africa to Natal].

40. ASPIDIUM, *Sw.*

Sori round (rarely oval), usually dorsal on a slender veinlet: *indusium* above the sorus, or abortive (–suppressed).—Petiole *not jointed at the base.*

There is no other universal character to distinguish *Aspidium* from *Polypodium*, but the indusium: but from a series of examples, in which the indusium is present and suppressed in the same species, it is probable, as Mettenius has suggested, that most forms of *Polypodium*, sect. *Phegopteris*, will eventually prove to possess an indusium (though it may be suppressed in most individuals). Hence I put the names of the West Indian species of *Phegopteris* at the head of those divisions of *Aspidium*, to which they would belong if an indusium was observed: such forms are easily distinguished from *Eupolypodium* by the dorsal insertion of the sori, the slender veinlets, and the petiole not jointed at the base, though all these characters have no universal, generic value.

§ 1. *Veinlets thickened at the summit, forked-dichotomous, free.*

* *Leaf pinnate; sori terminal on the anterior branch of forked veinlets* (Nephrolepis, *Schott*).

231. **A. pectinatum,** *W.* Leaf pinnate: *leaflets* shortly oblong, blunt, *dimidiate-truncate and upwards auricled at the base;* sori half as much distant from the margin as from the midrib: *indusium semilunar, with a broad sinus.—Schk. Crypt. t.* 29. *b. dextr.*—Nephrolepis, *Schott.* A. trapezoides, *Schk.* (*non Sw.*). N. tuberosa, *Hook.* (*ex parte, Lechl.* 2155.).—1′–2′ high; leaflets 6‴–8‴ long.—HAB. Jamaica!, *Macf.*, *Wils.*, *Al.*: [Venezuela! to Peru!].

232. **A. exaltatum,** *Sw.* Leaf pinnate: *leaflets* oblong-lanceolate, acute, or bluntish, *truncate* or subcordate *and upwards auricled at the base;* sori half as much distant from the margin as from the midrib, or juxtamarginal: *indusium cordate-orbicular, or reniform, with a broad, open sinus.—Sl. t.* 31. *Plum. Fil. t.* 63.—Polypodium, *L.* Nephrolepis, *Schott.*—Trailing: "twice in the year (from the rainy seasons), the stem starts afresh by a prolongation of the rhachis, remaining afterwards in a quiescent state, at length often attaining a height of 15′–20′, supporting itself on the bushes and trees" (*Al.*); leaflets 1″–2″ long.—HAB. Jamaica!, *Pd.*, *Hartw.*, *Al.*; S. Vincent!, *Guild.*; [Cuba! to Brazil!; Pacific islands!; trop. Asia and Africa].

233. **A. punctulatum,** *Sw.* Leaf pinnate: *leaflets oblong-linear*, serrulate, acuminate, *truncate or shortly cuneate at the base*, rarely produced upwards, into a short auricle, lowest short, blunt; sori half as much distant from the margin as from the midrib or juxtamarginal: *indusium cordate-orbicular, with a narrow sinus* and usually superincumbent auricles.—*Plum. Fil. t.* 112. *Fée, Polypod. t.* 23. *C. f.* 1.—Nephrolepis acuta, *Hook.*—Variable, comprising e.g. *A. acutum*, Schk. (Crypt. t. 31): a form with the rhachis and leaflets hairy beneath (Syn. *A. paraense*, W., Kze.!), *A. acuminatum*, W.: a glabrous form, *A. ensifolium*, Schk. (Crypt. t. 32), Kze.!: the form with juxtamarginal sori. Leaflets 2″–4″ long.—HAB. Jamaica!, *Pd.*; Dominica!, *Imr.*; [Cuba! to Brazil!, and all tropical countries].

234. **A. sesquipedale,** *W.* Leaf pinnate: *leaflets oblong-lanceolate, bluntish*, crenate-serrate above, *truncate and upward produced into a deltoid auricle at the base;* sori half as much distant from the margin as from the midrib, or juxtamarginal: *indusium cordate-orbicular, with a narrow sinus* and usually accumbent auricles.—*Schk. Crypt. t.* 32. *b.*—A. exaltatum, *Schk.*, *Sieb. Mart.* 357. Nephrolepis neglecta, *Kze.* (*ex Schk.*, *non Hortor.*). N. exaltata, *Hook.* (*ex parte, Lechl.* 2515). N. valida, *Kze.!*: a form with the sori distant from the margin.—Several feet high; leaflets 1″–2″ long.—HAB. West Indies (*Sw.*); [Martinique!; Guiana! to Peru!].

235. **A. mucronatum,** *Sw.* Leaf pinnate: *leaflets oblong-lanceolate, bluntish,* obtusely serrulate above, *subdimidiate-truncate and upward produced into a deltoid auricle at the base;* sori intermediate between the margin and the midrib, or more distant from the latter: *indusium peltate-orbicular, entire.—Sl. t.* 36. *f.* 4. 5. *Schk. Crypt. t.* 20. *c. dextr. Hook. Spec. t.* 216.—Very similar to the preceding, which is as much paleaceous: sometimes the veinlet is a little produced beyond the receptacle; leaflets 1″–2″ long.—Hab. Jamaica!, *Hartw., Wils.;* [Haiti to French islands!; Venezuela!].

** *Leaf pinnate–pinnatipartite (-undivided); sori dorsal on the veinlets.*

236. **A. semicordatum,** *Sw.* Leaf pinnate: *leaflets lanceolate-linear, acuminate, semicordate at the base:* veins dichotomous; sori 2(–3)-serial on both sides of the midrib: indusium peltate-orbicular, entire.—*Fée, Polypod. t.* 22. *A.*—3′–4′ high; leaflets 3″–5″ long; exterior sori in our form medial, interior near the base of its veinlet and close to the midrib, while in Fée's figure of an East Indian form all sori are medial.—Hab. Jamaica!, *Pd., Wils.;* S. Vincent!, *Guild.;* Trinidad!, *Pd.;* [Cuba! to Peru!; Galapagos!; East Indies].

237. **A. triangulum,** *Sw.* Leaf pinnatisect, subcoriaceous: *segments deltoid-rhomboid* or trapezoid, shortly cuneate or rounded or dimidiate at the base, spiny-dentate or subentire with mucronate angles (rarely 3-fid): veins forked, lowest dichotomous; sori uniserial: indusium peltate-orbicular, repand, dentate or suppressed.—*Plum. Fil. t.* 72. *Sl. t.* 36. *f.* 2. 3. *Schk. Crypt. t.* 29. *b. sin.*—Polypodium, *L.* A. mucronatum, *Schk.* (*non Sw.*).—Segments 6‴–12‴(–18‴) long: rhachis often proliferous at the apex.

α. Segments deltoid-rhomboid or hastate, usually dentate.—Polystichum ilicifolium, *Fée.*

β. trapezoides, Sw. Segments dimidiate at the base, upwards auricled, usually serrulate or subentire.—*Sl. t.* 36. *f.* 1.—A. mucronatum, *Eat. Pl. Wr.* Polystichum viviparum, *Fée:* a form with large segments, large serratures or lobes, and the inferior often separated from the rest.

γ. tridens, Hook. Segments 3-fid–3-partite.—*Hook. Spec. t.* 215.

Hab. Jamaica!, all coll. (*α, β, γ*), on mountain rocks; [Cuba!].

238. **A. rhizophyllum,** *Sw.* *Leaf* pinnatisect, *with the terminal segment elongated,* lanceolate-linear, often proliferous (sometimes alone developed): lateral segments obovate-roundish, subentire, superior decurrent; veins forked or dichotomous; sori 1–2-serial, confined to the terminal or upper segments: indusium peltate-orbicular, repand.—*Hook. Grev. Ic. t.* 59.—A. Plaschnikianum, *Kze.:* the form with most or all lateral segments suppressed (*Hook. Spec. t.* 211).—4″–8″ high, cæspitose; lateral segments 4‴–6‴, terminal 2″–4″ long.—Hab. Jamaica!, *Pd., Wiles;* [Cuba!].

239. **A. viscidulum,** *Metten.* *Leaf pinnatipartite, glandular-puberulous,* subsessile: segments oblong-lanceolate, bluntish, crenulate or subentire, broadly adnate and often upwards auricled at the base: veins dichotomous or forked; sori 1-serial: indusium peltate-orbicular.—*Hook. Grev. Ic. t.* 140.—A. glandulosum, *Hook. Grev.* (*non Bl.*).—4″–6″ high, 1″ broad, cæspitose.—Hab. Jamaica!, *Pd.,* in woods; [Cuba!].

§ 2. *Veins not areolated, slender.*

* *Leaf 2–4-pinnatisect: segments oblique or auricled at the base; veins free.*

240. **A. aculeatum,** *Sw.* Leaf 2-pinnatisect: *secondary segments* obliquely acute, *mucronate-serrate-lobed,* cuneate and upwards auricled at the base, *lowest superior lobe larger,* erect: most veins forked; *indusium peltate-orbicular* or abortive.—2′–3′ high, very variable, paleaceous. West Indian forms:—

β′. Moritzianum, Kl.! Leaf chartaceous: lowest primary segments smaller; indusium membranaceous; most paleæ narrow.

γ′. platyphyllum, W. Leaf chartaceous (or herbaceous): lower primary segments not decrescent, lowest superior secondary ones little larger; indusium none (or "abortive").—*Metten. Fil. Lips. t.* 22. *f.* 1.—Polypodium, *Hook.!* (Phegopteris, *Metten.*).

Hab. Jamaica!, *Bancr.* (*γ′*); Trinidad!, *Cr.* (*β′*); [both temperate and tropical zones of the globe].

241. **A. ascendens,** *Heward!* Leaf 3-pinnatisect, chartaceous: *tertiary sterile segments* oblong-lanceolate, *pointed, serrate, obliquely cuneate at the entire base,* lowest superior slightly larger, *fertile contracted, minutely roundish:* veinlets pinnate; sori occupying each contracted segment: *indusium cordate-orbicular.—Hook. Spec. t.* 224.—Possibly a dimorphic state of *Dicsonia coniifolia.* Rhizoma scandent; leaf 4′–1′, lowest tertiary segments 8‴–10‴ long, fertile 1‴ diam.—HAB. Jamaica!, *Pd., Wils., Al.,* on trees, in moist woods.

242. **A. coriaceum,** *Sw.* Leaf 3-pinnatisect, coriaceous: *tertiary segments* oblong-lanceolate, *bluntish,* pinnatifid-subentire, *cuneate at the slightly oblique base,* lowest superior little larger: veinlets sunk, superior forked, inferior pinnate; *sori large,* occupying the space between the midrib and margin: *indusium peltate-orbicular.—Schk. Crypt. t.* 50.—Polypodium, *Sw.*—Stout; lowest tertiary segments 6‴–8‴ long; sori 1‴ diam.—HAB. Jamaica!, *Pd.,* on rocks; [Cuba! to Patagonia! and the whole southern temperate zone to Mauritius].

243. **A. mexicanum,** *Pr.* "Leaf 2–3-pinnatisect: *ultimate segments* obovate-oblong, *blunt,* pinnatifid-subentire, *cuneate* at the slightly oblique base, lowest superior little larger: veinlets forked-dichotomous; sori small: *indusium orbicular, at length shortly cordate.*" —*Hook. Spec. t.* 267.—"2′–3′ high, variable; lowest ultimate segments 6‴–10‴ long."—HAB. Jamaica!, *Macf., Pd., Wils.;* [Mexico! to Ecuador].

244. **A. pubescens,** *Sw.* *Leaf* 2–3-pinnatisect, *softly pilose beneath* or at least at the rhachis: *ultimate segments* ovate or ovate-oblong, *pointed,* pinnatifid-serrate (or subentire), *obliquely cuneate at the entire base,* lowest superior larger: veinlets forked or simple; *indusium reniform-roundish* or suppressed.—*Hook. Grev. Ic. t.* 162.—Polypodium, *L.* Phegopteris portoricensis, *Fée:* the form with naked sori. Ph. sericea, *Eat.!:* probably a form of it with bluntish segments.—1½′–2′ high, variable; lowest ultimate segments 4‴-12‴ long.—HAB. Jamaica!, *Macf., Pd.;* [Cuba! to French islands!].

245. **A. funestum,** *Kze.* Leaf 2–3-pinnatisect: *lowest inferior secondary segments elongated: ultimate* ovate-oblong or oblong, *blunt,* pinnatifid-subentire, *obliquely cuneate and often upwards auricled at the base,* lowest superior little larger: veinlets forked, lower pinnate; *indusium reniform-roundish.—Hook. Spec. t.* 259.—A. cicutarium, *Kze. in Pl. Kegel.!* (*non Sw.*).—1′–2′ high; lowest ultimate segments 8‴–12‴ long.—HAB. Trinidad!, *Woodf.;* [Portorico! to Brazil!].

246. **A. effusum,** *Gr.* *Leaf* 2(–3)*-pinnatisect with* 2*-pinnatipartite special segments below:* rhachis of the tertiary ones narrowly winged: *quaternary segments* passing gradually into serratures above, the lower ovate-oblong, *cuneate at the slightly oblique base,* serrate, lowest superior little larger: veinlets pinnate, simple or forked; *indusium small, reniform-roundish, often suppressed.—Sl. t.* 57. *f.* 1. 2. *Schk. Crypt. t.* 26. *b. c.*—Polypodium, *Sw.* Synops. P. divergens, *Sw.* (*Pl. Wright.* 831). A. excultum, *Metten.!* (A. lætum, *Moritz*): a puberulous form.—Stout; lowest ultimate divisions of the lowest primary segments 4‴ long, tertiary segments ovate at the base.—HAB. Jamaica!, *Macf., Hartw., Wiles, Al.;* S. Vincent!, *Guild.;* [Cuba! to Brazil!].

247. **A. denticulatum,** *Sw.* *Leaf* 3*-pinnatisect with pinnatipartite special segments,* shining-chartaceous: ultimate segments cuneate, *mucronate-few-dentate:* veins sunk, forked or simple; *indusium reniform-orbicular,* with a short sinus.—*Hook. Ic. t.* 923.—Polypodium, *Sw.* A. lætum, *Sw.* A. Klotzschii, *Hook.*—Rigid, 1½′-2′ high; lowest ultimate segments 2‴–3‴ long, usually with a single sorus.

α. Ultimate segments cuneate-elliptical, mucronate.

β. rigidissimum, Hook. Ultimate segments shortly spathulate-linear.

HAB. Jamaica!, *Macf., Wils., Pd., Lamb.;* [Cuba! to Brazil!].

** *Leaf* 3–2*-pinnatisect; segments equal-sided: veins free.*

248. **A. villosum,** *Sw.* Very stout; *leaf* 3-pinnatisect, *pilose,* hispidulous or glabrescent, except at the hairy rhachis: *tertiary segments oblong, blunt, pinnatifid,* or inferior pinnatipartite, superior cuneate, uppermost entire: *lobes rounded at the summit:* veinlets forked or simple; *indusium large, cordate-orbicular,* often abortive or suppressed.—*Plum. Fil. t.* 27. *Schk. Crypt. t.* 46. *b. inf. Hook. Spec. t.* 264. *Metten. Fil. Lips. t.* 17. *f.* 10.—Polypo-

dium, *L.* P. subincisum, *W.* (Alsophila martinicensis, *Sieb. Mart. Crypt. Bras. t.* 64), P. spectabile, *Kaulf.*, P. Karstenianum, *Kl.*: forms without indusium, distinguished by variable characters. Variable in the down (*e.g.* the rhachis pilose or pubescent), the sori close to the midrib or between it and the margin, confined to the lower anterior veinlet or several in each lobe, the ramification of the veins, and the division of the leaf. "Petiole 8′–12′, blade 8′–10′ long" (*Wills*), the former woody; lower tertiary segments 6‴ long, 2‴ broad or larger.—Hab. Jamaica!, *Macf.*, *Pd.*, *Bancr.*, *Al.*, *Wils.*, rare, in moist woods, at 3–4000′ alt., *e.g.* Cold Spring Plantation, Fort Steward, Bluefield Mountains; [Cuba! to French islands!, *Sieb. Mart.* 346; Venezuela! to Valdivia!].

249. **A. amplum,** *Metten.* Leaf 2-pinnatisect with deeply pinnatipartite secondary segments: rhachis glandular-puberulous, paleaceous: *tertiary segments oblong, blunt, serrate, inferior pinnatifid, adnate or shortly decurrent at the equal base:* veinlets pinnate, simple or forked; *indusium minute, cordate or suppressed.—Sl. t.* 57. *f.* 3 (Polypodium effusum, *Sw.*, *Fl.*, *non Synops.*). P. Sloanei, *Kze.*: the characters, observed by Sir W. Hooker, viz. the petiole not tubercled, and the narrow, silky paleæ, are confirmed by our specimens, but scarcely constant, and the indusium is often suppressed in both forms. P. lachnopodium, *J. Sm.*—*A. effusum*, Gr., is similar, but its secondary segments are twice as broad at the base. 2′–3′ high, broad at the base; inferior tertiary segments 4‴–6‴ long, 2‴ broad.—Hab. Jamaica!, *Pd.*, *Wils.*, *Al.*; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!, *Sch.*; [Cuba! to French islands!; Mexico to New Granada].

250. **A. hirtum,** *Sw.* *Leaf* 2-pinnatisect with pinnatipartite–2-pinnatipartite segments, *glandular-puberulous:* rhachis pubescent, paleaceous: *ultimate segments ovate, pointed, entire, adnate and shortly decurrent at the equal base,* 1–2-sorous: veinlets few, simple or forked; *indusium minute, reniform or suppressed.—Plum. Fil. t.* 43. *Kze. Farnkr. t.* 135.—A. nemorosum, *W.* Polypodium crystallinum, *Kze.*—Slender, 6″–12″ high; ultimate segments 1‴–1½‴ long, ¾‴–1‴ broad.—Hab. Jamaica!, *Pd.*, *March*, on moist, shady rocks; [Cuba!; Guatemala; trop. Africa].

*** *Leaves pinnatisect with pinnatipartite segments: veins free, lowest veinlets distant at the sinus* (Conf. *Polypodium caudatum*, Kaulf.; *P. decussatum*, L.; *P. Hewardii*, Gr.).

251. **A. sanctum,** *Metten.* Slender; leaf pinnatisect or 2-pinnatisect with respect to the 2 lowest, larger secondary segments, puberulous beneath at the ribs only: *primary segments* pinnatipartite, *lowest much decrescent, secondary* oblong-lanceolate, bluntish, decurrent, *subentire:* veinlets simple or forked: rhachis puberulous; *sori subequidistant from the midrib and margin,* small: indusium "minute, reniform, ciliate" or suppressed.—*Sl. t.* 49. *f.* 2.—Polypodium, *Sw.*—6″–12″ high; secondary segments 2‴ long, lowest often as large, approximate to the rhachis.—Hab. Jamaica!, *Macf.*, *Bancr.*, *Pd.*, *Al.*, on rocks; [Cuba!].

252. **A. conterminum,** *W.* Leaf pinnatisect, puberulous or glandular beneath, or glabrescent: *primary segments* pinnatipartite or pinnatifid, acuminate, *lowest much decrescent, secondary oblong,* obliquely bluntish, *subentire, lowest usually larger:* veinlets simple: rhachis puberulous; *sori nearer to the margin than to the midrib:* indusium small, reniform, ciliate.—*Plum. Fil. t.* 47.—A. polyphyllum, *Kaulf.* A. sanctoides, *Fée.* Polypodium concinnum, *Sieb.*—1′–2′ high; secondary segments 2‴–1‴ long, lowest often twice as large, approximate to the rhachis, but not separated from the rest as in the preceding.—Hab. Jamaica! *Wils.*, *Al.*, Blue Mountains to 7000′ alt.; [Cuba! to French islands; Mexico! to Brazil!].

253. **A. oligocarpum,** *Kth.* *Leaf* pinnatisect, *puberulous:* primary *segments* pinnatipartite, subsessile, lowest decrescent, *secondary* oblong or oblong-linear, blunt, *entire,* nearly horizontal, *lowest not enlarged:* veinlets simple: *rhachis hoary-puberulous;* indusium small, reniform, ciliate or suppressed.—*Radd. Fil. Bras. t.* 34.—Polypodium pubescens, *Radd.*—1½′–3′ high; secondary segments 3‴–2‴ long.

α. Special segments oblong-linear, ¾‴ broad; sori near the margin.

β. Kaulfussii, Lk. Special segments oblong, 1¼‴–1‴ broad; sori more distant from the midrib than from the margin.—Link's Fern is known to me from cultivated specimens of

the Berlin garden: these have an indusium, which is suppressed in young specimens from Dominica.

HAB. Jamaica!, *Macf.*, *Wils.*, *Al.*, Blue Mountains at 7000′ alt. (α); Dominica!, *Imr.* (β), S. Vincent!, *Guild.;* [Cuba! and Mexico! to Chili!].

254. **A. limbatum,** *Sw.* Leaf pinnatisect, glabrescent: *primary segments* pinnatipartite, sessile, *bearing a gland at the base beneath, secondary* oblong or oblong-lanceolate, blunt, crenulate or entire, *lowest downward produced:* veinlets mostly simple: rhachis glabrescent; *sori* infraterminal, *half-covered by the reflexed leaf-margin:* indusium reniform-roundish.—*Sl. t.* 49. *f.* 1. *Kze. Farnkr. t.* 51.—A. Breutelii, *Metten.* (Amauropelta, *Kze.*). A. Sprengelii, *Kaulf.!:* a form with entire segments and a more delicate indusium.—4′–6′ high; secondary segments 4‴–5‴ long.—HAB. Jamaica (*Sl.*); S. Kitts (*Brentel*), S. Vincent!, *Guild.;* [Portorico!, French islands!, *Sieb. Mart.* 355; Venezuela!].

255. **A. aureovestitum,** *Gr.* Leaf pinnatisect, glabrescent, paleaceous at the ribs beneath: primary *segments* pinnatipartite, subsessile, *secondary* oblong-linear, blunt, subdistant, *inferior serrate:* veinlets simple: *rhachis and petiole densely clothed with rusty scales;* sori equidistant from the midrib and margin: indusium minute, deciduous.—*Hook. Spec. t.* 246.—Nephrodium, *Hook.*—To be compared with *A. ctenitis*, Lk., from Brazil.—2′ high; inferior secondary segments 6‴–5‴ long.—HAB. Jamaica!, *Pd.*, *Wils.*, Manchester; [Cuba!].

From *A. tetragonum*, Metten. (*A. setosum*, Kl.!), I exclude the S. Vincent locality, Guilding's Fern belonging to *A. molle*, Sw.—*A. L'Herminieri*, Metten. (Jamaica, *Breutel*) is unknown to me: it is apparently allied to *A. limbatum*, Sw., but pubescent.

**** *Leaf pinnatisect with pinnatifid or serrate segments: lower veinlets approaching, contiguous or anastomosing at or below the sinus* (Conf. *Polypodium tetragonum*, L.; *P. megalodus*, Schk.; *P. crenatum*, Sw.; *P. flavopunctatum*, Kaulf.; *P. obliteratum*, Sw.).

256. **A. invisum,** *Sw.* Leaf pinnatisect, somewhat rigid, simply puberulous at the ribs beneath: *segments long, oblong-linear,* acuminate, *pinnatifid beyond* (or to) *the middle,* sessile, lowest little decrescent: *lobes* oblong, *falcate acute,* entire: veinlets simple, 1–2 lowest pairs contiguous (or approaching) at the sinus or along a plait below it: rhachis simply puberulous or glabrescent, 3-gonal; sori equidistant from the midrib and margin: indusium reniform-roundish.—*Sl. t.* 51. *t.* 50. *f.* 1.—Stout, variable; segments 12″–6″ long, 12‴–8‴(–6‴) broad.

α. Segments pinnatifid to $\frac{3}{4}$–$\frac{2}{3}$, 12‴–8‴ broad.—A. incisum, *Sw. Herbar.!* (probably a mistake in Swartz's autograph, instead of *A. invisum*). A. serra, *Hook.* (*Wr. Cub.* 1003). A. macrurum, *Hook.*, *Eat.* (*Wr. Cub.* 822. 1002: both partly). A. macrurum, *Kaulf.!* (A. subincisum, *Sieb. Mart.* 354), is a form of the same with the lowest pair of veinlets approaching, but a little distant at the sinus. Nephrodium schizotis, *Hook.!:* a pubescent form with the lower secondary divisions larger.

β. *Schkuhrii.* Segments pinnatifid to the middle, 8‴–6‴ broad.—*Schk. Crypt. t.* 18.—A. Serra, *Eat.* (*ex parte, Wr. Cub.* 1004). A. macrurum, *Metten. in Pl. Cub. Rugel.*

HAB. Jamaica (*Sw.*), common in woods; Dominica!, *Imr.;* Trinidad!, *Sch.;* [Cuba! to Brazil!].

257. **A. Serra,** *Sw.* Leaf pinnatisect, rigid, simple puberulous at the ribs beneath: *segments long, linear,* acuminate, *pinnatifid to the middle,* sessile, lowest as large: *lobes ovate-deltoid,* entire: veinlets simple, 1–3 lowest pairs contiguous along a plait below the sinus: rhachis simply puberulous or glabrescent, 3-gonal; sori equidistant from the midrib and margin: indusium reniform-roundish.—*Sl. t.* 48. *f.* 1. *Kze. Farnkr. t.* 59.—A. augescens, *Lk.* (*Wr. Cub.* 923). Swartz's species was confounded by Kunze with the preceding, but his description ("pinnæ 3‴–4‴ latitudine") leaves no doubt: Schkuhr's figure (Crypt. t. 33. *b.*) is doubtful, and may be a form of it with shorter segments. 2′–4′ high; segments 5″–12″ long, 3‴–4‴ broad.—HAB. Jamaica!, *Wils.*, *Pd.*, in wet places, S. Anns, S. Marys; [Cuba!].

258. **A. patens,** *Sw.* Leaf pinnatisect, usually pubescent beneath: *segments lanceolate-acuminate, pinnatifid beyond* (or to) *the middle,* sessile, lowest little decrescent: *lobes oblong, bluntish,* subentire: *veinlets* simple, *lowest pair contiguous* (*or approaching*) *at or*

below the sinus: rhachis hairy, sub-4-gonal; sori equidistant from the midrib and margin: indusium reniform.—*Sl. t.* 52. *f.* 1.—A. molle, *Eat. in Pl. Wr. Cub.* 818.—1½′–3′ high; segments 3″–5″ long, 6‴–8‴ broad.—HAB. Bahamas; Jamaica!, *Macf.*, *Pd.*, *Wils.*; Dominica!, *Imr.*, S. Vincent!, *Guild.*, common; [Florida and Texas! to Brazil!; Galapagos!; S. Helena!].

259. **A. deltoideum,** *Sw.* Leaf pinnatisect, rigid, shortly hispidulous at the ribs beneath: *segments oblong-lanceolate,* bluntish or pointed, *pinnatifid to the middle,* sessile, *lower abruptly reduced, upwards auricled: lobes* ovate-oblong, entire, *obliquely pointed: veinlets* simple, *lowest pair contiguous at the sinus with a plait between them:* rhachis hairy, obtusely sub-4-gonal; sori nearer to the margin than the midrib: indusium small, reniform.—1′–2′ high; segments 3″ long, 8‴–10‴ broad, lower 8‴–4‴ long.—HAB. Jamaica!, *Macf.*, *Bancr.*, *Wils.*, in mountain-woods; [Cuba! to French islands!].

260. **A. molle,** *Sw.* *Leaf* pinnatisect, *pubescent: segments lanceolate-acuminate, pinnatifid to about the middle,* sessile, lowest gradually or little decrescent: *lobes oblong,* blunt or bluntish, entire: *veinlets* simple, *lowest pair anastomosing below the sinus,* forming a vein, that runs into the sinus: rhachis hairy, obtusely sub-4-gonal; sori equidistant from the midrib and margin: indusium reniform-roundish.—*Schk. Crypt. t.* 34. *b.*—A. sclerophyllum, *Eat. in Pl. Wr. Cub.* 1001. 1005. 1006 (*non Kze.*). A. tetragonum, *Hook.*, from S. Vincent (*non Metten.*)—Variable, 1′–4′ high, not to be distinguished from *A. patens,* Sw., but by the veins; segments 3″–1½″(–5″) long, 6‴–8‴ broad.—HAB. Jamaica!; S. Vincent!, *Guild.*; [all tropical countries to New Mexico!, Japan, Madeira!, Algeria, the Cape! and Australia].

261. **A. unitum,** *Sw.* (*non Sieb.*). Leaf pinnatisect, rigid, glabrescent: *segments linear,* shortly acuminate *with a bluntish point, pinnatifid* to one-third to half, sessile, lowest as large: *lobes ovate-deltoid,* entire: *veinlets* simple, 1–2 *lowest pairs anastomosing,* and forming an excurrent vein below the sinus: rhachis glabrescent, 3-gonal; sori equidistant from the midrib and margin: indusium reniform-roundish.—*Schk. Crypt. t.* 33. *b. sinistr.*—Polypodium, *L.* A. gongylodes, *Schk.*: a form with blunt lobes. Nephrodium propinquum, *R. Br.* N. paludosum, *Liebm.!*—In habit approaching *A. Serra,* Sw., but distinguished by shorter, less acuminate segments, and anastomosing veins. 2′–4′ high; segments 3″–4″ long, 4‴–6‴ broad.—HAB. Jamaica!, *Pd.*, in morasses; [Guadeloupe!; all tropical countries to Porto Alegre; and the Cape].

262. **A. brachyodon,** *Gr.* Leaf pinnatisect, glabrescent: *segments oblong-lanceolate,* shortly acuminate, *coarsely crenate-serrate* to one-fourth, bearing a gland at the petiolulated base beneath, lowest as large: serratures trapezoid-oblique with a narrow sinus, entire: *veinlets* simple, *lowest anastomosing or separated, following pair contiguous at the sinus:* rhachis angular; sori somewhat distant from the midrib: indusium small, cordate-reniform or suppressed.—*Seem. Panam. t.* 49.—Nephrodium, *Hook.* Polypodium, *Kze.* Phegopteris Seemanni, *J. Sm.*—3′–4′ high; segments 6″–8″ long, 1⅓″ broad, serratures 3‴ broad. —HAB. Dominica, S. Vincent (*Hook.*); [Panama to Peru!; Galapagos].

263. **A. serrulatum,** *Metten.* "Leaf pinnatisect, glabrescent: *segments lanceolate-acuminate, coarsely crenate-serrate, obliquely rounded at the subsessile base,* lowest half as long: *veinlets* simple, *lowest anastomosing below, following pair at the sinus;* indusium reniform."—*Sl. t.* 43. *f.* 1.—Polypodium, *Sw.*—" 2″–3″ high; segments 5″ long, 8‴ broad (*Metten.*). With this are to be compared: 1° *A. Imrayanum* (*Nephrodium,* Hook. t. 242. A.), distinguished by approaching, free veinlets, and small, appressed serratures (having a "rhachis semiterete on the back"); and 2° Fendl. Venez. 474, combining the coarse serratures of Mettenius's diagnosis, a glabrous, obtusely 4-gonal rhachis, and the veinlets of Hooker's figure: both approach *Polyp. flavopunctatum,* Kze., but Fendler's Fern is not pellucid-dotted.—HAB. Jamaica (*Sw.*), in mountain-woods; Dominica (*A. Imrayanum*).

264. **A. asplenioides,** *Gr.* Leaf pinnatisect, puberulous on the ribs beneath, somewhat rigid: *segments oblong-linear,* shortly acuminate, *coarsely crenate, truncate* or subcordate *at the equal, subsessile base,* lowest little and gradually decrescent: *veinlets* simple, *lowest pair anastomosing and sending a vein to the sinus* (rarely separated), *second pair contiguous at the sinus:* rhachis 4-gonal, pubescent; indusium "reniform" or suppressed. —*Sl. t.* 43. *f.* 2. 50. *f.* 3.—Polypodium, *Sw.* A. sclerophyllum, *Kze.* (A. scolopendrioides,

var. pinnatum, *Metten. !*).—Fendler's Pl. Venez. 446, is apparently a glabrescent form with free veins.—2′-3′ high; segments 3½″-1½″ long, 8‴-4‴ broad.—HAB. Jamaica!, *Pd., Wils., Al.*; S. Vincent!, *Guild.*; Trinidad!, *Lockh.*; [Cuba! to French islands!, *Sieb. Mixt.* 332; Panama! to Brazil!].

265. **A. reptans,** *Metten.* (*excluss. var.* 1, 2). Leaf pinnatisect, hairy: *segments oblong or ovate, blunt, crenate* (or repand-entire), *subtruncate at the shortly petiolulated, equal base: veinlets* simple, *lowest pair anastomosing and sending a vein to the sinus* (rarely separated), *following pair distant:* rhachis filiform, often proliferous at the summit; indusium abortive.—*Sl. t.* 29. *t.* 30. *f.* 1.—Polypodium, *Sw.* P. repandum, *Sw.?*: this is probably *P. cordatum*, Hook., a form with subentire segments, and most (not always all) veinlets free.—A. reptans, *var.* 3, *var.* 4, *Metten.!* (*exclus. syn. Sw.*).—Cæspitose, decumbent; segments 12‴-4‴ long, 5‴-4‴ broad, much smaller in the proliferous part.—HAB. Jamaica!, *Pd., Wils., Al.*, on limestone rocks; [Cuba!; Guatemala! to Brazil].

***** *Leaf pinnatisect–pinnatifid, with entire (rarely crenate) segments or lobes.*

266. **A. hastifolium,** *Gr.* *Leaf pinnatisect,* glabrescent: *segments oblong-linear, blunt, entire, hastate* at the subsessile base, superior adnate, lowest much decrescent: *veinlets free,* simple or forked: rhachis puberulous; indusium abortive.—*Hook. Grev. Ic. t.* 203.—Polypodium, *Sw.* P. hastatum, *Sw.* A. reptans, *var.* 2, *Metten.*—1½′-4″ high, cæspitose; segments 12‴-6‴ long, 2‴ broad.—HAB. Jamaica!, *Macf., M'Nab, Bancr., Pd.*, in shady woods, and on rocks; [Cuba!].

267. **A. scolopendroides,** *Metten.* (*exclus. var.* 1, 3). *Leaf pinnatipartite,* pinnatisect at the base, pinnatifid at the summit, glabrescent: *segments oblong or ovate, blunt,* entire (or crenate), lowest decrescent, distant: *veinlets* simple or forked, *lowest pair anastomosing near the rhachis,* and forming a vein, that runs to the sinus: rhachis puberulous; indusium cordate-orbicular or suppressed.—Polypodium, *Sw.* A. Wrightii, *Eat.* (*Pl. Cub.* 824. *Hook. Spec. t.* 239): a form with large indusia and the lowest segments upwards auricled.—1′-1½′ high; segments 12‴-6‴ long, 4‴-3‴ broad.—HAB. Jamaica!, *Pd., Wils.*, in dry places, on rocks; [Cuba! to French islands!].

268. **A. incisum,** *Gr.* (*non Sw.*). *Leaf pinnatifid to or beyond the middle, tapering into a subentire base,* somewhat rigid, puberulous at the ribs beneath: lobes oblong or ovate, entire: *veinlets* simple (or forked), 2-3 *lowest pairs anastomosing at and below the sinus by a special vein:* rhachis puberulous beneath; indusium cordate-orbicular.—*Plum. Fil. t.* 91. *Kze. Farnkr. t.* 120.—Polypodium, *Sw.* A. stenopteris, *Kze.* A. scolopendroides, *var.* 1, *Metten.!*—8″-20″ high, 1½″-8‴ broad at the middle; lobes 3‴-4‴ broad at the base, blunt or pointed.—HAB. Bahamas!, *Fraser*; Jamaica!, *Macf.*, in woods; [Cuba to New Granada!].

§ 3. *Most veinlets in a loose network.*

* *Leaf pinnatisect.*

269. **A. guianense,** *Kl.* Leaf pinnatisect, glabrous: *segments numerous, lanceolate,* acuminate, serrate or repand-entire below the serrate apex, oblique at the shortly petiolulated base, *terminal pinnatifid* or lobed at the base: *veins forming angular meshes* (sometimes free); sori scattered pluriserial: *indusium peltate-orbicular.*—*Hook. Spec. t.* 234.—A. abbreviatum, *Hook.* (*non Schrad.*: Schrader's Fern, communicated by Kunze, has the segments pinnatifid with blunt lobes and the regular veins of *Goniopteris*).—2′ high; segments 3″-6″ long, 6‴-12‴ broad.—HAB. Jamaica!, *Wils.*; Trinidad!, *Cr.*, in wet places, Aripo; [New Granada, Guiana!, Brazil].

270. **A. meniscioides,** *W.* Leaf pinnatisect, coriaceous, glabrous: *sterile segments* 5-8-*jugal, oblong,* shortly acuminate, subentire, obliquely cuneate at the subsessile base, *fertile contracted,* lanceolate: *veinlets in serial meshes, most meshes with free appendages;* sori confluent: indusium "peltate," deciduous.—*Hook. Grev. Ic. t.* 121.—A. confertum, *Hook. Grev.*—Stout, 3′-6′ high; sterile segments 6″ long, 1¼″ broad, fertile 3″-4″ long, 6‴-8‴ broad.—HAB. Trinidad!, *Schk., Pd.*, in damp woods, Aripo!; [Guiana! to Brazil!].

271. **A. macrophyllum,** *Sw.* Stout; leaf pinnatisect: *segments* 4-8-*jugal, oblong, acuminate,* repand or sinuate, distant, *lowest often* 2-*partite,* most sessile, adnate-decur-

rent, terminal often 3-fid: *veinlets in a loose network with free appendages;* sori serial along the veins: *indusium cordate-orbicular.—Plum. Fil. t.* 145.—3′–6′ high; segments usually 6″–12″ long, 1½″–2″ broad.—HAB. Jamaica!, *Wils.;* Dominica!, *Imr.*, S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Cuba! to French islands!, *Sieb. Mart.* 358; Mexico! to Brazil!; Galapagos!].

272. **A. cicutarium,** *Sw.* Leaf pinnatisect below the pinnatifid summit: *segments 3–6-jugal, pinnatifid:* lobes oblong or ovate, blunt: *veinlets in a loose network, most devoid of free appendages; sori dorsal,* serial along the veins: *indusium cordate-orbicular.—Plum. Fil. t.* 150.—Polypodium, *L.* P. appendiculatum, *Sw.*

α. latifolium, Pr. Leaves gradually dilated downwards: inferior segments ovate-oblong or oblong; indusium large, roundish.—2′–4′ high; inferior segments usually 6″ long, 2″ broad.

β. coriandrifolium, Sw. Leaf oblong: segments deltoid-roundish; indusium small, roundish.—A. hippocarpis, *Sw.*—6″–1½′ high; inferior segments usually 1″ diam., but passing into *α*.

HAB. Jamaica (*Sw.*), in mountain-woods; Trinidad (*Metten.*), [Cuba!, Mexico!, Panama!, Ecuador!].

273. **A. apiifolium,** *Schk.* Leaf pinnatisect below the pinnatifid summit, 2-pinnatisect at the base: *primary segments pinnatipartite,* secondary oblong-lanceolate, obtusely serrate-pinnatifid, bluntish: *veinlets in a loose network,* devoid of or provided with free appendages; *sori terminal,* sunk into the leaf, rather scattered: *indusium reniform-roundish.—Schk. Crypt. t.* 56. *b. sin.*—A. dilaceratum, *Kze., Metten.*—Stout; primary segments about 10″–6″ long, 3″ broad.—HAB. Jamaica!, all coll., in the mountains, on wet rocks; [Portorico!; Guatemala; Pacific islands].

274. **A. trifoliatum,** *Sw. Leaf ternati(–pinnati)-sect* (or 3-partite): *segments* 1(–2)-*jugal,* terminal ovate or ovate-oblong, pointleted, sinuate–3-fid, lateral semicordate, often 2-fid: *veinlets in a loose network with free appendages;* sori serial along the veins and scattered: *indusium peltate-orbicular,* rarely emarginate.—*Sl. t.* 42, *t.* 26, *f.* 2. *Plum. Fil. t.* 148. *Schk. Crypt. t.* 28, *t.* 28. *b. Hook. Gen. t.* 33.—Polypodium, *L.* A. heracleifolium, *W.* (*Plum. Fil. t.* 147); the form with 2-jugal segments. A. fimbriatum, *W.* (*Plum. Fil. t.* 149: A. Plumierii, *Pr.*): a form with 3-partite leaves and the indusium often emarginate.—1′–2′ high, very variable; terminal segment usually 8″–6″ long, 6″–3″ broad, lateral smaller, asymmetrical, often distant.—HAB. Bahamas; Jamaica!, *Hartw., Al.;* Dominica!, *Imr.*, S. Vincent!, *Guild.*, Barbadoes!; *Stephan;* [Cuba! to French islands!: Mexico! to Peru!].

Woodsia Brownii, Metten. (*Hypoderris,* J. Sm., Hook. Gen. t. 1, Ic. t. 675, 676), is a remarkable Fern, confined to Trinidad!, *Cr., Lochk.* (in shady, rocky lanes). Though distinguished from *A. trifoliatum,* by the character of *Woodsia* (indusium inferior all round, fimbriate, terminal none), I have supposed it to be perhaps a dimorphic state of it with the flat receptacle transformed and the proper indusium suppressed (Götting. Nachrichten, 1863, p. 104). Other characters however are: a tripartite leaf, and a dark-brown, densely paleaceous and hairy petiole, while in *A. trifoliatum,* only the leaves of young plants are tripartite, the petioles stramineous-shining, and the paleæ confined to their base.

*** Leaf 3-partite–pinnatifid.*

275. **A. pedatum,** *Desv.* Leaf 3-partite–pinnatifid, ovate, bluntish, cordate or subtruncate at the base, subcoriaceous, glabrous: lobes ovate or oblong, repand, lowest larger, often sinuate, pinnatifid or semicordate-bifid: *veinlets sparingly areolate,* with free appendages: petiole shining-blackish; *sori* serial-scattered, *most terminal: indusium reniform* with a broad sinus, coriaceous.—*Kze. Farnkr. t.* 75.—6″–12″ high, long-petioled; leaf 2″–3″ broad at the base.—HAB. Jamaica!, *Bancr., Pd.;* [Cuba!, Haiti].

**** Leaf entire.*

276. **A. Fadyenii,** *Metten. Leaf* undivided (rarely sinuate), *sterile lanceolate-oblong or spathulate,* tapering into a short petiole, entire or repand, *fertile longer, lanceolate:* veinlets in a network, fertile meshes 1-serial, their inner appendages thickish at the summit; *sori* 1-serial along the midrib, *terminal:* indusium reniform or orbicular, usually with a broad

sinus, and one of the auricles decurrent at the receptacle.—*Sl. t.* 26. *f.* 1. *Hook. Grev. Ic. t.* 96. *Hook. Gen. t.* 53. *B.*—Asplenium proliferum, *Sw.* (Aspidium, *Hook., Grev., non R. Br.;* Fadyenia, *Hook.*).—Cæspitose; sterile leaves 1″–6″ long, often proliferous at the apex, fertile 6″–8″ long, 2‴–6‴ broad.—Hab. Jamaica (*Hook.*), in shady mountain-woods; [Cuba !].

§ 4. *Veins costate: leaf entire* (Conf. *Polypodium blechnoides*, Sw.: leaf pinnatisect).

277. **A. plantagineum,** *Gr. Leaf elliptical-oblong, blunt,* cuneate-decurrent at the base, entire or sinuate-repand: *costate veins distant, veinlets in a loose network* with free appendages; sori serial along the veins, distant: *indusium peltate-orbicular,* deciduous *or "suppressed."—Plum. Fil. t.* 128.—Polypodium, *Jacq.*—About 1′ high, 4″–2½″ broad.—Hab. Dominica !, *Imr.*, S. Vincent !, *Guild.;* [French islands !, *Sieb. Mixt.* 353; Panama, Venezuela !, Guiana !, equat. Brazil, Peru !].

278. **A. nodosum,** *W. Leaf shining-chartaceous, lanceolate-oblong* or oblong-linear, *pointleted,* entire, cuneate at the petioled base: *all veins costate, approximate,* simple, and 2-partite, *no veinlets: petiole jointed below the middle;* sori serial along the midrib, and scattered on the back of the veins: *indusium cordate-orbicular.—Plum. Fil. t.* 136.—Oleandra, *Pr.* O. micans, *Kze.* (*Pl. Lechl.* 2539). A. articulatum, *Schk.*—8″–12″ high, 2½″–1″ broad.—Hab. Jamaica !, *Pd.*, on decayed trees; Dominica !, *Imr.*, S. Vincent !, *Guild.;* Trinidad !, *Pd.;* [Cuba ! to French islands !; Guiana to Peru !; Fernando Po].

41. CYSTOPTERIS, *Bernh.*

Sori round, dorsal: *indusium* inferior, dimidiate-cucullate, pointed.

279. **C. fragilis,** *Bernh.* Leaf 2-pinnatisect: its outline oblong-lanceolate: secondary segments pinnatipartite, tertiary dentate-lobed: rhachis margined.—C. jamaicensis, *Desv.*—Hab. Jamaica (*Hook.*); [most countries of the globe].

42. POLYPODIUM, *L.*

Sori round (rarely oval), naked, on (rarely below) the summit of free, or at the anastomosis of connected veinlets, rarely lateral from the reduction of its proper veinlets, or dorsal: *veinlets* thickened at the summit, or slender beyond dorsal sori.

Sect. 1. Phegopteris, Metten. (conf. *Aspidium*). *Sori dorsal on slender veinlets.*—Leaf often much divided: petiole not jointed at the base.

* *Leaf pinnatisect with pinnatipartite segments: veins free, lowest veinlets distant at the sinus.*

280. **P. caudatum,** *Kaulf.* Leaf pinnatisect, glabrous, dotted with pellucid points, often paleaceous at the ribs beneath; primary *segments* pinnatipartite, superior sessile, *secondary* linear-oblong, bluntish, *serrate:* veinlets simple or forked: rhachis glabrous, bearing scattered scales; sori serial, nearly equidistant from the midrib and margin.—3′–4′ high; secondary segments 6‴–8‴ long, 2‴ broad.—Hab. Jamaica !, *Macf., Pd., Wils.;* [Cuba ! to Brazil !].

281. **P. decussatum,** *L.* Stout; leaf pinnatisect, usually puberulous: *primary segments* horizontal, pinnatipartite, sessile, *supported by an oblong, pointed scale, secondary* linear-oblong, blunt, *entire,* approximate, much diverging, lowest equal: veinlets simple excurrent: rhachis puberulous or glabrescent; sori serial, confluent.—*Plum. Fil. t.* 24.—5′–12′ high; larger segments 1′ long, 1″ broad, secondary 1½‴ broad.—Hab. Jamaica !, *Wils., Pd.*, in moist mountain-woods, at 3000′ alt., rare; Montserrat, S. Vincent !, *Guild.;* [French islands !, *Sieb. Mart.* 349; Venezuela ! to Brazil and Peru !].

282. **P. Hewardii,** *Gr.* Leaf pinnatisect, glabrescent: *primary segments* pinnatipartite, sessile, *lower much decrescent,* distant, *secondary* oblong, blunt, *entire:* veinlets simple: rhachis puberulous or glabrescent; *sori shortly oblong,* nearly equidistant from the midrib and margin.—Grammitis, *Moore.* Gymnogramme gracilis. *Heward* (Leptogramma, *J. Sm.*).—By the sori shortly decurrent along the veins it forms a passage into *Gymno-*

gramme, but has the habit of a common *Aspidium*.—3′–4′ high; secondary segments 6‴–5‴ long, 1½‴ broad.—HAB. Jamaica!, *Hartw.*, *Pd.*, mountains of Port Royal, Westmoreland.

** *Leaf pinnatisect with pinnatifid or serrate segments: lower veinlets approaching, contiguous, or anastomosing at or below the sinus, the other free, excurrent.*

283. **P. tetragonum,** *L.* Leaf pinnatisect: *segments lanceolate, pinnatifid to one-half–one-third, shortly petiolulate,* lowest little or not decrescent: lobes oblong or ovate, blunt or bluntish, entire: *veinlets* simple, *lowest pair anastomosing below the sinus,* sending a vein into the sinus, following pair contiguous at the sinus: *rhachis 4-gonal;* sori serial: series extending to the lowest veinlets.—Variable, distinguished from similar forms of *Aspidium molle*, Sw., by petiolulated segments, and from *A. abbreviatum*, Schrad. (non Hook.), perhaps not sufficiently by the anastomosis of the veinlets.—2′–5′ high; segments 9″–3″ long, 12‴–6‴ broad.

α. Glabrescent (down simple): segments 3″–6″ long, pinnatifid to about the middle: lobes spreading: veinlets 6–10-jugal.—*Sl. t.* 48. *f.* 2. *Schk. Crypt. t.* 18. *b.*

β. Plumieri, J. Sm. Puberulous with stellate down; segments 6″–9″ long, pinnatifid to one-third: lobes falcate-blunt: veinlets 10–12-jugal,—*Plum. Fil. t.* 21.

HAB. Jamaica!, *Macf.;* Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Cuba! and Mexico! to Brazil and Peru!].

284. **P. megalodus,** *Schk.* Stout; leaf pinnatisect, somewhat rigid, stellate-puberulous: *segments oblong-lanceolate, coarsely serrate to one-fourth, petiolulate,* lowest as large: serratures falcate, broadly ovate or oblong, bluntish or blunt, entire: *veinlets* simple, *several lower pairs anastomosing below the sinus,* forming a vein that runs into the sinus: *rhachis* puberulous, 4-*gonal;* sori serial: series extending often to the lowest veinlets.—*Schk. Crypt. t.* 19. *b.*—4′–6′ high; segments 12″–8″ long, 1½″ broad: serratures 4‴–2‴ broad: veinlets 8–15-jugal.—HAB. Trinidad!, *Cr.;* [Cuba!, *Wr.* 1010, to French islands!; Venezuela!].

285. **P. crenatum,** *Sw.* Leaf pinnatisect, slightly hispidulous: *segments oblong-lanceolate, crenate-serrate, subsessile:* serratures truncate-appressed: *veinlets* simple, about 10-jugal, *free and anastomosing without order:* rhachis obtusely sub-4-gonal; sori distant, chiefly on the lower veinlets.—*Plum. Fil. t.* 111.—P. meniscioides, *Liebm.*—2′–3½′ high; segments 4–8-jugal, longer 6″ long, 1½″ broad.—HAB. Jamaica!, *Wils.*, *March;* S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Cuba! and Mexico! to Venezuela! and Guiana!].

286. **P. flavopunctatum,** *Kaulf.* Leaf pinnatisect, glabrescent, *pellucid-dotted* with yellowish points: *segments oblong-linear, acuminate, coarsely cuneate-serrate, sessile at the oblique, upward produced base,* shortly decurrent, lower largest: *veinlets* distant, 3–6-jugal, *free, lowest second or third pair approaching at the sinus:* rhachis paleaceous, obtusely 4-gonal below; sori distant, chiefly on the lower veinlets.—*Plum. Fil. t.* 38.—Aspidium rotundatum, *W.*—3′–6′ high: lower segments 6″–10″ long, 8‴–12‴ broad.—HAB. Jamaica (*Hook.*); Dominica!, *Imr.*, S. Vincent!, *Guild.;* [French islands!; Mexico to Guiana! and Peru].

287. **P. obliteratum,** *Sw.!* Leaf pinnatisect, glabrous: *segments lanceolate, serrate,* or chiefly the uppermost *pinnatifid-serrate,* tapering at both subentire ends, *lower petiolulate,* as large, *superior adnate-decurrent: veinlets* simple, 6–10-jugal, *lower anastomosing* and forming a vein that runs into the sinus: rhachis puberulous, sub-3-gonal; sori approximate to the middle, serial: series extending to the lower veinlets.—Approaching *Aspidium Imrayanum*, Hook., but segments not upward produced at the base, and with a long special vein below the sinus, often unconnected with the appendage of the lowest anastomosis.—3′–4′ high; segments 6–10-jugal, 6″–8″ long, 1″ broad.—HAB. Jamaica!, *Sw.*, in mountain-woods.

*** *Veins costate.*

288. **P. blechnoides,** *Sw.* Leaf pinnatisect: *segments lanceolate, entire below the serrate, narrowly acuminate apex:* veins costate, approximate, simple or 2-partite, *no veinlets;* sori dorsal toward the base of the veins or scattered.—*Hook. Gen. t.* 42, *B. Hook. Grev. Ic. t.* 232.—Alsophila, *Hook.* P. rosseatum, *W.* (Amphidesmium, *Schott*). P.

Parkeri, *Hook. Grev.*—On its habitual relation to *Saccoloma elegans*, conf. Götting. Nachrichten, 1863, p. 107.—" Arboreous ;" segments 15″–6″ long, 1″ broad.—HAB. Trinidad (*J. Sm.*) ; [Guatemala ; Panama ! ; Guiana ; Brazil ; Peru].

Sect. 2. EUPOLYPODIUM.—*Sori terminal, rarely lateral or subterminal : veinlets thickened at the summit.*—Leaf usually simply pinnatisect-entire : petiole jointed at the base.

A. *Leaf pinnatisect or pinnatipartite.*

§ 1. *Most veinlets in a loose network : sori at the point of union, or exterior series at the end of free appendages of the meshes* (Phlebodium, *R. Br.*).

289. **P. aureum,** *L.* Leaf pinnatipartite, membranaceous-chartaceous, glaucescent, glabrous : *segments* oblong-linear, repand, *distant by the broadly decurrent base :* many of the exterior meshes with interior, sterile appendages ; sori 2(3–1)-serial.—*Plum. Fil. t.* 76. —Variable in the development of the terminal segment, and the segments either entire or remotely serrulate.—Leaf 3′–5′(–1′) long : longest segments 8″ long, 1″ broad, usually 1″ distant from each other : from the latter character Schkuhr's figure (Crypt. t. 12. inf.), usually quoted, is doubtful, and belongs probably to *P. dulce*, L. (Plum. Fil. t. 80 ; Sieb. Mart. 239), approaching the following species.—HAB. Jamaica, on trees (*Sl.*) ; [Cuba ! and Mexico ! to Guiana ! and Brazil !].

290. **P. areolatum,** *Kth.* (*sec. Metten. in Pl. Wr.*). Leaf pinnatipartite, chartaceous, glaucous beneath, glabrous : *segments* lanceolate or oblong-linear, subentire, *separated by a narrow, rounded sinus :* exterior meshes devoid of interior sterile appendages ; sori 1(–2)-serial.—P. drynarioides, *Gr. Pl. Carib.* P. glaucinum, *Mart. Gal.* (*Mém. Brux.* 15. *t.* 2. *f.* 1). P. pulvinatum, *Lk. :* a form less glaucous, with the terminal segment less developed.—3′–1′ high ; longer segments 4″–6″(–9″) long, 6‴–10‴(–12‴) broad, 3‴–4‴ distant from each other at the base.—HAB. Jamaica !, *Wils.*, on trees ; S. Vincent !, *Guild. ;* [Cuba ! and Mexico ! to Brazil ! ; Galapagos !].

§ 2. *Most or lower veinlets in a loose network : all sori at the end of solitary, free appendages of the meshes* (Goniophlebium, *Pr.*).

291. **P. neriifolium,** *Schk.* Leaf pinnatisect, chartaceous, glabrous : *segments distant,* lanceolate or lanceolate-linear, acuminate, entire, or repand, often slightly falcate, *obliquely adnate at the cuneate base,* superior shortly decurrent ; sori 2–1(–" 3 ")-serial.—*Schk. Crypt. t.* 15.—P. gladiatum, *Kze.:* a glaucescent form with lanceolate-linear segments and impressed sori. P. xiphophorum, *Kze. ! :* the form with uniserial sori.—2′–3′ high ; longest segments 6″–4″ long, 10‴–6‴ broad, 1″–8‴ distant from each other.—HAB. Jamaica !, *Macf. ;* Dominica !, *Imr. ;* Trinidad !, *Parker ;* [Cuba ! and Mexico ; to Brazil !].

292. **P. surrucuchense,** *Hook. !* Leaf pinnatisect, chartaceous : *segments distant,* lanceolate-linear, acuminate, entire, *rounded at the* often oblique, *sessile base ;* sori 1-serial, contiguous.—*Hook. Ic. t.* 69.—Habit of *P. cordatum,* Kze. (Metten. Polyp. t. 2. f. 1), of which it is probably a form with less developed veinlets and the segments less auricled at the base. The West Indian form is glabrous, while in the original Cuença specimens the leaf is puberulous beneath.—1′ high ; segments 3½″–2″ long, 4‴ broad, 12‴–6‴ distant from each other.—HAB. Jamaica !, *Wiles ;* Dominica !, *Imr. ;* [Ecuador !].

293. **P. chnoodes,** *Spreng.* Leaf pinnatisect, chartaceous, pubescent : *segments slightly distant,* lanceolate-acuminate, entire, or repand, usually falcate, *not tapering at the* equal or semicordate *base, broadly adnate ;* sori 2(1–" 3 ")-serial.—P. rubiginosum, *L'Hermin. !*—1′–2′ high ; longer segments 4″–3″ long, 6‴–7‴ broad, 4‴–6‴ distant from each other.—HAB. Jamaica !, *Pd., Wils. ;* Dominica !, *Imr.*, S. Vincent !, *Guild. ;* Trinidad !, *Pd. ;* [Cuba ! to French islands ! ; Venezuela !].

294. **P. loriceum,** *L.* Leaf pinnatisect, membranaceous-chartaceous, glabrescent : *segments contiguous,* lanceolate-acuminate, entire, or repand, nearly horizontal, *broadly adnate at the upward produced base ;* sori 1–2-serial.—*Plum. Fil. t.* 78.—1½′–3′ high ; longer segments 3″–2″ long, 6‴–4‴ broad, 1‴–3‴ distant from each other.—HAB. Jamaica !, *Pd., Bancr. ;* Dominica !, *Imr.*, S. Vincent !, *Guild. ;* [Cuba ! and Mexico ! to Brazil !].

§ 3. *Few veinlets connected in a network, most free: leaf and petiole scaly* (Lepicystis, *J. Sm.*).

295. **P. incanum,** *Sw.* Low: *leaf* pinnatipartite, coriaceous, glabrescent above, *densely covered with rusty scales beneath: segments distant*, oblong-linear, bluntish, involute, usually subentire, *connected by the narrowly decurrent and upward dilated base*, most equal; sori 1-serial.—*Schk. Crypt. t.* 11. *b.*—P. velatum, *Schk.* Acrostichum polypodioides, *L.*—4″-1′ high; most segments 6‴-8‴ long, 1½‴-2″ broad, 2‴-6‴ distant from each other.—HAB. Jamaica!, *all coll.*, on trees; S. Vincent!; Trinidad!, *Schk.*; [Southern United States! and Cuba! to Uruguay!; Galapagos!; tropical Africa].

§ 4. *All veinlets free*, ("*rarely a few anastomosing*,") (Ctenopteris, *Bl.*).

* *Veinlets divided or 2-fid, mixed with simple ones.*

296. **P. dissimile,** *L.* Leaf pinnatisect, membranaceous-chartaceous, glabrous: *segments distant*, lanceolate or lanceolate-linear, acuminate, repand, *superior obliquely adnate at the upward dilated, lowest subsessile at the cuneate base:* veinlets dichotomously branched (sometimes partly anastomosing); sori oval, terminating the lower anterior branches of the veinlets.—*Schk. Crypt. t.* 14.—P. sororium, *Kth.*—Habit of *P. neriifolium*, Schk.—2′-3′ high: longer segments 5″-6″ long, 8‴-10‴ broad, 8‴-10‴ distant from each other at the base.—HAB. Jamaica (*Sw.*); Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba! and Mexico! to Venezuela! and Peru!].

297. **P. pectinatum,** *L.* *Leaf* pinnatisect, *elastical-chartaceous, puberulous*, much longer than the petiole: *segments* regularly alternate, horizontal, *linear from a subequal, subulate, adnate base*, bluntish, usually entire, *most contiguous* or slightly cohering: *veinlets dichotomously branched* or bifid; sori terminating the anterior branches of the veinlets.—*Plum. Fil. t.* 83.—P. Schkuhrii, *Radd.* (*Schk. Crypt. t.* 17. *b. sinistr.*): a form with the lowest segments not decurrent.—1′-3′(-5′) high; segments 9‴-18‴ long, 2‴ broad above the base.

α. Most segments approximate, separated by an acute sinus.—P. lomariiforme, *Kze.*, *Metten.!*: a form with subfalcate segments, the lowest distant.

β. sinue, L. Segments distant, separated by a rounded sinus, or the base produced at both sides like a wing.—*Sl. t.* 32: quoted by Linnæus.—P. Otites, *W.*, *Metten.!* (*non Sw.*).

HAB. Jamaica!, *Macf.*, *Bancr.*; Dominica!, *Imr.*; [Cuba! to Brazil!].

298. **P. taxifolium,** *L.* *Leaf* pinnatisect, *rigid-coriaceous, glabrate* from fugacious pilose down beneath, shortly petioled, tapering at both ends: *segments* regularly alternate, nearly horizontal, *lanceolate-linear* or linear, *from a subequal, subulate, adnate base, contiguous*, entire, revolute at the margin: *most veinlets 2-fid*, "some dichotomously branched," all free: rhachis rusty-pilose; sori terminating the anterior branches of the veinlets.—*Plum. Fil. t.* 89.—P. Plumula, *W.*—6″-12″ high; middle segments 8‴-12‴ long, 2‴ broad at the base.—HAB. Jamaica!, *Pd.*; [Haiti! and Mexico! to Ecuador! and Brazil!].

299. **P. curvatum,** *Sw.* *Leaf* deeply pinnatipartite, *elastical-chartaceous, granular-puberulous beneath*, subsessile or shortly petioled: *segments* regularly alternate, spreading, *lanceolate-linear from an obliquely subulate, adnate base*, bluntish, repand-entire, *all cohering at the base*, lowest much decurrent, deltoid: *veinlets partly 2-fid, partly simple;* sori terminating the anterior branches of the veinlets.—P. Moritzianum, *Lk. in Pl. Moritz.!* P. curvatum, *Metten.* (*Pl. Lechl.*), is distinguished by pinnatisect leaves, a longer petiole, and pilose down.—Cæspitose, about 1′ long, ascending; most segments 1″ long, 2‴ broad above the base.—HAB. Jamaica!, *Pd.*, on trees near the mountain-peaks; [Guadeloupe; Venezuela! to Ecuador!].

300. **P. Otites,** *Sw.* (*non W.*). *Leaf* pinnatisect, *elliptical-membranaceous*, puberulous at the ribs or glabrescent, much longer than the petiole: *segments distant*, spreading, *linear from an obliquely adnate, narrowly decurrent base, sinuate* (or serrulate), bluntish: rhachis puberulous: *veinlets partly 2-fid, partly simple;* sori terminating the anterior branches of the veinlets.—*Plum. Fil. t.* 85.—P. tenuifolium, *Kth.* P. decipiens, *Hook.* (*Spec. t.* 279. *B*): *a form with partly serrate, and* P. pilipes, *Hook.* (*Ic. t.* 221), *with dissected segments.*—6″-12″ high; segments 8‴-12‴ long, 1¼‴ broad.—HAB. Jamaica!, *Macf.*, *Wiles*; [Cuba! and Venezuela! to Peru!].

** *Veinlets simple or with a reduced branchlet, which supports the sorus.*

301. **P. asplenifolium,** *L.* *Leaf* pinnatisect, *flaccid-membranaceous,* rusty-pilose chiefly along the margin, *shortly petioled: segments* regularly alternate, horizontal, *ovate-oblong, blunt, broadly adnate, upward rounded and downward produced at the base, all contiguous,* most equal: *veinlets* apparently simple, but *producing about the middle a minute anterior branchlet,* which supports the lateral sorus.—*Plum. Fil. t.* 102. *A. Metten. Polypod. t.* 1. *f.* 16: the veinlets.—P. suspensum, *Sieb. Mart.* 242.—1′–1½′ long; segments 6‴–8‴ long, 4‴ broad above the base.—HAB. Jamaica (*Sw.*); [Martinique!].

302. **P. suspensum,** *L.* *Leaf* pinnatisect, *elastical-chartaceous,* rusty-pilose at the margin or glabrescent, *supported by a slender,* pendulous *petiole: segments* regularly alternate, nearly horizontal, *shortly oblong-lanceolate,* pointed or bluntish, *broadly adnate at the subequal base,* entire, *all contiguous,* most equal: *veinlets* apparently simple, but often *producing about the middle a minute anterior branchlet:* sori lateral on the latter (rarely terminating a simple veinlet).—*Plum. Fil. t.* 87. *dextr.* P. laxifrons, *Liebm.!, and* P. arcuatum, *Moritz!:* a form with longer segments: in a variety (*var.* brachylobum, *Gr.; Wr. Cub.* 808) with short (4‴ long) lobes, several veinlets are provided with terminal sori. —1½′–3′ long; segments 6‴(–12‴) long, 3‴–2‴ broad.—HAB. Jamaica!, *Pd., Wils.,* on trees; S. Vincent!, *Guild.*; [Cuba! and Mexico! to Brazil!].

303. **P. cultratum,** *W., Metten.!* *Leaf* pinnatisect, *elastical-membranaceous,* rusty-pilose chiefly along the margin, *subsessile: segments* regularly alternate, nearly horizontal, *shortly oblong-lanceolate or ovate,* blunt or bluntish, *broadly adnate at the subequal base,* entire or few-crenate-repand, *most distant by half their breadth,* lowest shorter: *veinlets simple;* sori terminal.—*Plum. Fil. t.* 88.—Very variable in the size and form of the segments; 1½′–3″ long, ascending or pendulous; segments 6‴–3‴(–8‴–2‴) long, 2‴–3‴ broad.

α. Segments ovate-oblong or shortly oblong-lanceolate, 6‴–3‴ long.

β. brachyphyllum. Segments obliquely ovate or ovate-roundish, truncate at the lower, rounded and usually crenate at the upper margin.—P. elasticum, *Eat.* (*Pl. Wr.* 1018).

HAB. Jamaica!, *Pd., Bancr., Wils.,* on trees in the mountains (*α, β*); [Cuba! to Guadeloupe!; Venezuela! to Peru! and Brazil!; tropical Africa to Mauritius].

304. **P. pendulum,** *Sw.* *Leaf* pinnatisect, *elastical-chartaceous, subsessile,* or shortly petioled: *segments* regularly alternate, spreading, *oblong, blunt, all contiguous at the broadly adnate, obliquely subulate base,* entire, most equal: *veinlets simple;* sori terminal or "lateral."—*Schk. Crypt. t.* 10. *dextr.*—4″–12″ long: segments 1½‴ broad and as much distant above the dilated base.

α. Segments 8‴–4‴ long.—P. pendulum, *Metten. ex Sieb. Synops.* 52: but the sori in our specimens are terminal. P. venustum, *Pl. Carib.*

β. jubiforme, Kaulf., Metten.! Low; segments 2‴–3‴ long.—P. pendulum, *Sw. Herb.!:* but his description regards *α.* P. confusum, *J. Sm.!* P. parvulum, *Metten. Sw. Herb.:* intermediate between *α* and *β*.

HAB. Jamaica!, *Sw.* (*β*); Dominica!, *Imr.,* on trees; Trinidad!, *Cr.* (*β*); [French islands!; Venezuela!; Brazil!].

305. **P. flabelliforme,** *Lam.* *Leaf pinnatipartite, elastical-membranaceous,* glabrous, *subsessile: segments* regularly alternate, spreading, *oblong or ovate, blunt,* entire or crenate chiefly at the upper margin, *obliquely adnate and cohering by the decurrent base,* most equal: *veinlets simple; sori terminal.*—3″–8″ long; segments 4‴–2‴ long, 2‴–1‴ broad. —HAB. Dominica!, *Imr.,* S. Vincent!, *Guild.*; [Portorico!; Guiana!; Brazil!].

306. **P. moniliforme,** *Cav.* *Leaf* pinnatisect, *rigid-coriaceous,* glabrous or glabrescent beneath, shortly petioled or subsessile: *segments* regularly alternate, nearly horizontal, *very shortly oblong, rounded or half-round,* entire or crenate, *revolute at the margin,* broadly adnate at the base, all contiguous, most equal: veinlets apparently simple; *sori lateral,* at length confluent.—*Plum. Fil. t.* 87. *sin.* *Kze. Farnkr. t.* 133. *f.* 1.—P. flabelliforme, *Sw.* (*non Lam.*). P. subcrenatum, *Hook.*—3″–8″(–12″) long, often pendulous; segments 2‴(–1‴) long, 1‴–1½‴ broad.—HAB. Jamaica!, *Pd.,* on trees on the summit of the Blue Mountains; [Cuba! and Mexico! to Peru!].

*** *Sori single in each segment.*

307. **P. trichomanoides,** *Sw.* Leaf pinnatisect, elastical-chartaceous, pilose with scattered hairs chiefly beneath (or glabrate), shortly petioled or subsessile: *segments* regularly alternate, spreading, *very shortly oblong or ovate, rounded,* entire, *contiguous by the decurrent, broadly adnate base,* lowest decrescent: veins apparently simple: *sori* single, *lateral,* approximate to the upper margin of the primary vein at its base.—*Schk. Crypt. t.* 10. *sin.*—P. truncicola, *Kl.*—2″–6″(–8″) long; segments $1\frac{1}{2}'''$–$1'''$ long, $1'''$–$\frac{3}{4}'''$ broad.—HAB. Jamaica!, *Macf., Wiles, Pd.,* on trees of the highest mountains; S. Vincent!, *Guild.;* Trinidad!, *Lockh.;* [Cuba! to French islands!; Panama! to Ecuador! and Brazil!; Juan Fernandez!].

308. **P. exiguum,** *Gr.* (*n. sp*). Leaf pinnatisect, elastical-chartaceous, glabrous, subsessile or shortly petioled: *segments* regularly alternate, spreading, *half-ovate, blunt,* entire or often unicrenate at the upper rounded margin, *distant, but contiguous at the narrowly decurrent, broadly adnate base,* lowest decrescent, more distant: *primary vein 2-fid: sori* single, *terminal* on its anterior branchlet.—Rhizome capillary; leaves cæspitose $\frac{1}{2}''$–$2''$ long, flexuose: segments $1'''$–$\frac{1}{2}'''$ long, $\frac{1}{2}'''$ broad, their points $1'''$ distant from each other: single anterior branch of the vein near its base about half as long as it.—HAB. Jamaica!, *Pd.,* on trees on the summit of the Blue Mountains, very rare.

B. *Leaf pinnatifid.*

309. **P. comptonifolium,** *Desv.* *Leaf pinnatifid* to one-third or one-fourth, *oblong-lanceolate,* cuneate at the base, bearing scattered hairs, or glabrescent, membranaceous, supported by a slender petiole: *lobes obliquely ovate,* bluntish: sinus ovate: veinlets free ("rarely a few anastomosing"), with a single, often reduced, anterior branchlet, which is terminated by the sorus.—*Hook. Grev. Ic. t.* 42.—P. scolopendroides, *Hook. Grev.* (*non L.*). P. trifurcatum, *L.*: this name is taken from a monstrosity, figured by Plumier (Fil. t. 138). —8″–12″ long; blade 6″–8″ long, 1″ broad, upper margin of the lobes about $3'''$ long.—HAB. Jamaica!, *Macf., Bancr.;* [Portorico! to Ecuador!].

C. *Leaf entire.*

§ 1. *Veins and veinlets in a loose network; sori at or below the summit of free (sometimes reduced) or anastomosing appendages of the meshes* (Goniophlebium *and* Phlebodium.)

* *Sori 1-serial.*

310. **P. piloselloides,** *L.* *Leaves chartaceous, difform,* hairy with scattered, paleaceous down, *sterile* ovate-lanceolate or ovate-oblong (rarely oblong-lanceolate), blunt or bluntish, *cuneate at the petioled base, fertile lanceolate,* tapering into the petiole: larger meshes in the fertile 1-serial; *sori* hairy, 1-serial along the midrib, *terminal* on a single appendage (or "at its anastomosis with a recurrent veinlet").—*Plum. Fil. t.* 118. *Hook. Gen. t.* 51. *analyt.*—Leaves scattered along a filiform, long rhizome, $6'''$–$18'''$($-2\frac{1}{2}''$) long, stertile $4'''$–$6'''$, fertile $2'''$–$3'''$ broad: petiole $3'''$–$6'''$ long.—HAB. Jamaica!, *Wiles, Pd.;* Dominica!, *Imr.,* S. Vincent!, *Guild.;* [Cuba! to French islands!; Venezuela! to Ecuador!].

311. **P. vaccinifolium,** *Fisch. Langsd.* *Leaves coriaceous, difform,* glabrescent, *subsessile,* or shortly petioled, *sterile* ovate-oblong or lanceolate-oblong, blunt, *cuneate at the base, fertile lanceolate-linear,* tapering at both ends: meshes not visible on the polished surface; *sori* glabrous, 1-serial, distant from the midrib, sunk into the leaf, "*terminal* on simple appendages."—Habit of the preceding, but petiole $1'''$–$2'''$ long; leaves usually $8'''$–$2''$ long, sterile $5'''$–$4'''$, fertile $2'''$ broad.—HAB. Trinidad (*Metten.*): [Venezuela; Brazil!].

312. **P. salicifolium,** *W.* *Leaf coriaceous,* glabrous, lanceolate or lanceolate-linear, bluntish, *narrowly tapering into the subsessile base:* larger meshes sub-1-serial; *sori* 1-serial, *terminal* on a simple appendage or at its anastomosis with a recurrent veinlet.—Rhizome creeping, with rusty, usually appressed scales; leaves scattered, with a petiole-like base, $4''$–$1\frac{1}{2}''$ long, $5'''$–$2'''$ broad.—HAB. Jamaica!, *Wiles;* [Cuba! to Brazil!; Galapagos!; S. Helena!; tropical Africa!].

313. **P. serpens,** *Sw.!* *Leaf chartaceous,* glabrous, *undulate-repand,* lanceolate, or linear, *tapering into the short petiole:* larger meshes sub-1-serial; *sori* 1-serial, *terminal* on a simple appendage or at its anastomosis with a recurrent veinlet.—*Plum. Fil. t.* 121.—Rhizome long, scandent along trees and shrubs: its rusty scales spreading; leaf 6″–2″(-8″) long, 2‴–6‴(–8‴) broad: petiole 3‴–6‴ long.—HAB. Jamaica!, *Sw.;* [Cuba! to French islands].

314. **P. lycopodioides,** *L.* *Leaf chartaceous,* glabrous, lanceolate, or oblong-lanceolate, *tapering into the short petiole:* meshes sub-3-serial, second series larger; *sori* 1-serial, equidistant from the midrib and margin, *inserted at the anastomosis of several* ascending and recurrent *veinlets.—Plum. Fil. t.* 119.—Leaf 8″–3″ long, 1½″–6‴ broad.—HAB. Jamaica!, *Bancr.;* Dominica!, *Imr.;* [French islands!, *Sieb. Mart.* 244; Mexico! to Uruguay!; trop. Africa!].

315. **P. elongatum,** *Metten.* *Leaf coriaceous, variegated with scattered, minute* appressed, roundish *scales,* linear-lanceolate, *narrowly tapering into the subsessile base:* "larger meshes 1-serial;" *sori* 1-serial, *oval,* or oval-oblong, at length confluent, "inserted at the anastomosis of 2 ascending appendages," *parallel to the midrib.—Schk. Crypt. t.* 7. *fig. inf. sin.:* the state with partially confluent sori.—*Metten. Polypod. t.* 2. *f.* 8. 9.: the veins.—Grammitis, *Sw.* G. lanceolata, *Schk.*—Leaf 7″–2″ long, 4‴–2‴ broad.—HAB. Jamaica!, *Macf.;* Dominica!, *Imr.*, S. Vincent!, *Guild.;* [Cuba! to French islands!, *Sieb. Mart.* 348; Mexico! to Brazil!].

316. **P. lanceolatum,** *L.* *Leaf coriaceous, variegated beneath with scattered, minute* roundish *scales,* lanceolate, *tapering into a slender petiole:* larger meshes 1-serial; *sori* 1-serial, *large, roundish,* "inserted at the anastomosis of 2 ascending appendages."—*Plum. Fil. t.* 138. *Metten. Polypod. t.* 3. *f.* 16: the veins.—P. lepidotum, *W.*—Leaf 8″–4″(–3″) long, 12‴–6‴(–3‴) broad: petiole 3″(–1½″) long; sori 4‴–2‴ diam.—HAB. Jamaica!, *Pd.*, common, on dry rocks; [Mexico! to Brazil!; Juan Fernandez, S. Helena!, trop. Africa! to the Cape! and Bourbon!].

** *Sori scattered, or in several series.*

317. **P. angustifolium,** *Sw.* *Leaf coriaceous,* glabrous, *narrowly linear-lanceolate, long-tapering into the petiole,* revolute at the margin: meshes 2–3-serial: *sori 2–3-serial, at or below the end of simple, ascending appendages.—Metten. Fil. Lips. t.* 24. *f.* 6. *a. b.*—P. tæniosum, *W.*, *Metten!*, *Eat.* P. vexatum, *Eat.* 17 (*Campyloneurum cubense,* Fée).—Leaf 2′–½′ long, 10‴–3‴ broad.—HAB. Jamaica!, *Pd.*, on dry banks and trees: [Cuba! and Mexico! to Brazil! and Peru!]

Of allied species, probably occurring in Jamaica, I distinguish *P. fasciale,* W. (Cuba, *Pl. Wright.* 1020) by broader, chartaceous leaves with the repand margin flat; and *P. ensifolium,* W. (Kl. in Pl. Sello.!; *P. solutum,* Kl. in Kze. Farnkr. t. 117. 2; *P. angustifolium,* Eat. Pl. Fendl. 224) by 1-serial sori, and linear leaves tapering into a subsessile base.

§ 2. *Veins straight, costate: sori on appendages of the anastomosing veinlets* (Cyrtophlebium, *R. Br.*, *or* Campyloneuron, *Pr.*), *or at the point of union of a compound anastomosis* (Anaxetum, *Schott, or* Pleuridium, *Pr.*).

318. **P. Phyllitidis,** *L.* Leaf rigid-chartaceous, glabrous, lanceolate-oblong, or oblong-linear, repand, long-tapering into the petioled or subsessile base: *veinlets* arched-transverse, *forming* 2–1 *meshes; sori* 2(–3)*-serial* between the straight veins, *inserted below the end of* simple, ascending *appendages.*—Variable, but the forms, often confounded, present no certain characters. Leaf 3′–1′ long.

a. Swartzianum. Leaf lanceolate-oblong, bluntish (or acute), 3″–2½″(–2″) broad.—*Plum. Fil. t.* 130: an unusually narrow-leaved form; *t.* 131 (*P. comosum,* L.): a monstrosity of it. *Metten. Fil. Lips. t.* 24. *f.* 1. 2.—P. Phyllitidis, *Sw.*, *Kze.* (*Pl. Kappl.* 1386). P. repens, *Metten. (non Sw.) Eat. Pl. Wr.* 1021. Campyloneuron Moritzianum, *Fée.*

β. repens, Sw. Leaf oblong-linear, acuminate with a narrow point, 2″–1½″(1″–2½″) broad: petiole usually longer.—*Plum. Fil. t.* 134: an unusually broad-leaved form. *Metten. Fil. Lips. t.* 24. *f.* 4. 5.—P. Phyllitidis, *Sieb. Mart.* 243, *Metten. in Pl. Rugel. Cub.*, *Kze. in Pl. Kegel.* 168. P. cæspitosum, *Lk.!* P. chrysopodon, *Kl.!*

HAB. Jamaica!, *Macf.*, *Bancr.;* S. Vincent!, *Guild.;* [Cuba! and Mexico!, to Brazil!].

319. **P. crassifolium,** *L.* Leaf coriaceous, glabrous, lanceolate-oblong, narrowly tapering into the short petiole: *meshes* between the straight veins *irregular*, provided with appendages; *sori* 1-*serial* between the veins, *inserted at the anastomosis of* 3–4 *veinlets.*—*Plum. Fil. t.* 123. *Hook. Gen. t.* 29: *analyt.*—Leaf 6′–2′ long, 5″–2″ broad.—HAB. Jamaica!; Dominica!, *Imr.*, S. Vincent!, *Guild.*; Trinidad!; [Cuba! and Mexico! to Brazil! and Bolivia!; Galapagos!].

43. GRAMMITIS, *Sw.*

Sori oval, or oblong, confined to the upper part of the entire leaf, 1-serial, or confluent, dorsal on a single, free veinlet, naked.—Low Ferns; veinlets *slender at the summit in our species.*

320. **G. marginella,** *Sw.* Leaf spathulate-linear, or linear, blunt, tapering into the short petiole, glabrate: *veins simple in the sterile part of the leaf, not excurrent* into the discolor, thickish, often ciliate margin; sori parallel to the midrib, confluent.—*Schk. Crypt. t.* 7. *fig. sup. dextr.*—Polypodium, *Sw.*—Leaf 2″–4″(–8″) long, 3‴–1‴ broad.—HAB. Jamaica!, *Bancr.*, *Pd.*, on trees, Blue Mountain Peaks; [Portorico! to French islands!; Mexico! to Peru!; S. Helena!, Madagascar!, East Indies!].

321. **G. linearis,** *Sw.* Leaf linear, pointed, cuneate above the slender, puberulous petiole, glabrous, or subciliate: *veins 2-fid: both branches excurrent into the margin,* the anterior fertile near its base; sori parallel to the midrib.—*Schk. Crypt. t.* 7. *fig. sup. med.*—Polypodium gramineum, *Sw.*—Leaf 3″–5″ long, 1½‴–2‴ broad: petiole 6‴–12‴ long.—HAB. Jamaica!, on trees in the Blue Mountains; S. Vincent!; [Guiana, S. Helena, East Indies].

44. XIPHOPTERIS, *Kaulf.*

Sori oval, confluent, confined to the upper, convex-concave part of the leaf, embraced by its margin, inserted into the lower part of the simple veins, naked: veins slender.—A minute Fern; leaf *linear, pinnatifid, or pinnatipartite below the shorter, fertile part, subsessile: lobes or segments regularly alternate.*

322. **X. serrulata,** *Kaulf.*—*Schk. Crypt. t.* 7. *fig. inf. dextr.* *Fée, Polypod. t.* 10. *B.*—Asplenium, *Sw.* Grammitis, *Sw.* Polypodium, *Metten.*—1″–4″ high; lobes or segments obliquely deltoid, pointed.

α. Leaf pinnatifid below the repand fertile part, ½‴–1‴ broad: lobes as long as the breadth of the rhachis.

β. myosuroides, Kaulf. Leaf pinnatipartite below the serrate-pinnatifid fertile part: inferior margin of the segments longer than the breadth of the rhachis.—*Schk. Crypt. t.* 7. *fig. inf. sin.*—Polypodium, *Sw.* Grammitis, *Sw.*

HAB. Jamaica!, *Al.*, summit of the Blue Mountains (*α*), (*Sw. β*); Dominica!, *Imr.*, S. Vincent!, *Guild.* (*α*); Trinidad!, *Cr.* (*α*); [most tropical countries; *β*: Mexico to Brazil!].

Subseries 2. **Cyatheæ.**—*Receptacle prominent* (*except in* Lophosoria). *Sporangia with an oblique, complete ring.*—Stem arboreous.

45. LOPHOSORIA, *Prl.*

(Trichosorus, *Liebm.*)

Sori round, villous, dorsally inserted on the lowest, simple veinlet: receptacle flat, no indusium.—Stems *low, "subcæspitose," unarmed:* leaves 3-*pinnatisect: secondary segments decurrent, tertiary pinnatipartite, quaternary with free, simple, pinnate, 3–4-jugal veinlets.*

323. **L. pruinata,** *Pr.*—*Schk. Crypt. t.* 25. *b.*—Polypodium, *Sw.* P. griseum, *Schk.* Alsophila, *Kaulf.*—Leaves glaucous beneath, villous at the rhachis, woolly at the base of the petiole: primary segments about 2′, secondary 6″–4″, tertiary 6‴–5‴, quaternary 1½‴–2‴ long, the latter oblique, pointed, or bluntish, entire.—HAB. Jamaica!, *Wiles, Al.*, in mountain-woods; [Mexico! to Southern Chile!; Juan Fernandez!].

46. CYATHEA, *Sm.*

Sori globose, inserted into the back or at the forking of a veinlet: indusium complete, closed at first dehiscent: receptacle prominent.—Veinlets *pinnate, free, forked, or simple.*

324. **C. arborea,** *Sm.* "Unarmed;" leaves 2-pinnatisect: secondary segments pinnatipartite, subsessile, serrate at the acuminate summit, tertiary falcate-oblong, bluntish, crenulate-repand, lower fertile from the base to beyond the middle; *indusium circumscissile near the top, at length hemispherical, with the margin entire:* receptacle columnar, entire. —*Plum. Fil. t.* 1. 2. *Hook. Gen. t.* 23.—Polypodium, *L.* C. Grevilleana, *Mart.* C. elegans, *Heward.*—Trunk "10′–12′ high, 6″ thick" (*Plum.*); ultimate segments 6‴ long, 1½‴ broad; "petiole scaly."—HAB. Jamaica!, *Bancr.*, *Wils.*, *Al.*; S. Vincent!, *Guild.*; [Cuba! to Brazil!].

325. **C. Serra,** *W.* "Muricate:" leaves 2-pinnatisect: secondary segments pinnatipartite, sessile, serrate at the narrowly acuminate summit, tertiary falcate-oblong, bluntish, serrulate above, lower fertile from the base to or beyond the middle; *indusium circumscissile at the middle, at length shallow cup-shaped, entire at the margin:* receptacle clavate, at length often 2-lobed.—*Hook. Spec. t.* 9. *A.*—C. arborea, *Kz.* (*Disphenia*, Pr.).—Trunk "30′ high, or more" (*Pd.*); ultimate segments 4‴–6‴ long, 1‴–1½‴ broad.—HAB. Jamaica!, *Pd.*, *Hartw.*, in woods above Bath, in mountain-woods, S. Mary's; Dominica!, *Imr.*, S. Vincent!, *Guild.*; [Cuba! to French islands!; Venezuela to Brazil].

326. **C. Tussarii,** *Desv.* Leaves 2-pinnatisect: *secondary segments* pinnatipartite, *sessile,* serrate at the acuminate summit, *tertiary* subfalcate-oblong-linear, bluntish, *entire or serrulate at the upper part,* glaucous beneath, *fertile near the base only: rhachis hairy, unarmed; indusium bursting to the base into broad irregular valves:* receptacle globose, entire.—Ultimate segments 4‴ long, 1‴ broad.—HAB. Jamaica! (*Tuss.*); S. Vincent!, *Bory*; [Guadeloupe!].

327. **C. muricata,** *W.*, *Kaulf.* Leaves 2-pinnatisect: *secondary segments* pinnatipartite, *sessile,* obtusely serrate at the short, contracted, blunt summit, *tertiary* oblong, blunt, *crenate,* or obtusely serrate, *fertile* to *about the middle: rhachis muricate; indusium cut to the base into irregular fragments:* receptacle globose, entire.—*Plum. Fil. t.* 4.—C. Imrayana, *Hook.!*: but his figure (*Spec. t.* 9. *B.*) approaches the preceding by subentire segments.—Trunk "15′–20′ high" (*Wils.*); ultimate segments 4‴ long, 1½‴ broad: "petiole scaly."—HAB. Jamaica!, *Wils.*, *Wiles, Bancr.*, in the mountains, Catherine's Peak, at 5000′ alt.; Dominica; [French islands!, *Sieb. Mart.* 374].

328. **C. gracilis,** *Gr.* (*n. sp.*). Leaves 2-pinnatisect: *primary and secondary segments petioled,* the latter pinnatipartite, obtusely serrate at the tapering-linear, bluntish point, *tertiary* oblong, blunt, serrate at the recurved margin, slightly dilated at the base, glabrescent, *fertile to near the summit,* or beyond the middle: rhachis hairy: *petiole muricate; indusium bursting into subregular valves to near the cup-like base:* receptacle small, entire.—Allied to *C. divergens,* Kze., but segments much smaller. Trunk "very slender" (*Pd.*); prickles of the petiole short, scattered on both sides; primary segments ovate-oblong, 1½″ distant from each other, their petiole 1″ long, secondary ovate-lanceolate, inferior 2″, their partial petiole 2‴–3‴ long, ultimate inferior 4‴–5‴ long, 1‴–1½‴ broad.—HAB. Jamaica!, *Pd.*, Fox Gap.

329. **C. tenera,** *Hook.* "Unarmed;" leaves 2-pinnatisect: primary segments shortly petioled, *their rhachis margined* chiefly above by the narrowly decurrent secondary segments, the latter subsessile, pinnatipartite, shortly acuminate, serrate at the point, *tertiary* oblong, blunt, serrulate at the summit, glabrous, *fertile to about the middle; indusium* at length *irregularly shallow cup-shaped, or dimidiate,* subentire: receptacle minutely globose. —Alsophila, *J. Sm.*—In the same leaf the indusia pass from the character of *Cyathea* into the dimidiate scale of such species as have hitherto been referred to *Hemitelia*: thus the description of *C. multiflora,* Sm. (*Hemitelia,* R. Br.) would agree, except in the larger size of the segments. Secondary segments 2″ long, 8‴ broad (in *C. multiflora* said to be 4″ long, 1″ broad), ultimate 4‴ long, 1¼‴ broad; sori distant.—HAB. S. Vincent!, *Caley*; [Darien (*J. Sm.*)]; *C. multiflora,* Sm.: Jamaica, [Guiana].

47. ALSOPHILA, *R. Br.*

Character of *Cyathea*, but indusium reduced to a palea, or none, rarely dimidiate-inferior.

330. **A. aspera,** *R. Br.* Leaves 2-pinnatisect: *petiole prickly, curved below with shining, pale, ovate-lanceolate scales:* secondary *segments* pinnatipartite, sessile, serrate at

the acuminate point, *tertiary* oblong, blunt, *serrate*, glabrescent, fertile to beyond the middle: *rhachis muricate*, secondary villous above; *indusium* conspicuous, *half embracing the sorus, subpersistent:* receptacle globose.—*Plum. Fil. t.* 3. *Hook. Gen. t.* 21.—Cyathea, *Sw.*—Very prickly; secondary segments 3″ long, 6‴–8‴ broad: petiolar scales 10‴–14‴ long, 4‴ broad; receptacle in our specimens (Wr. Cub. 950, 1062) undivided: indusium much larger than in the following species.—HAB. Jamaica!, *Wils.*, in mountain-woods, at 3000′ alt.; [Cuba! to Caribbean islands].

331. **A. nitens,** *J. Sm.* Leaves 2-pinnatisect: *petiole muricate, with lanceolate-linear,* acuminate *scales,* which are *confined to its base:* secondary *segments* pinnatifid, or deeply pinnatifid, shortly petioled, or subsessile, bluntly serrate at the acuminate point, *tertiary* subfalcate-oblong, bluntish, *subentire, or bluntly serrulate above the middle,* glabrous, fertile to beyond the middle: *rhachis distantly muricate,* secondary hispidulous-pubescent above, glabrous beneath; *indusium minute, concealed by the sorus:* receptacle globose, hairy.—*Sl. t.* 56. *Hook. Grev. Ic. t.* 213. 215. *Hook. Spec. t.* 19. *B.*—Polypodium spinosum, *L.* (*ex Ic. Sl.*). A. aspera, *Hook. Grev.*—Trunk 20′–30′ high; secondary segments 3″–2″ long, 6‴–10‴ broad: petiolar scales 6‴–8‴ long, 1‴ broad.—HAB. Jamaica!, *Pd.*, *Wiles,* frequent; S. Kitts, Dominica!, S. Vincent, *Guild.*, Montserrat; [Cuba!, *Wr.* 951, 1061].

332. **A. infesta,** *Kze.* Leaves 2-pinnatisect: *petiole* "prickly only below:" secondary *segments* pinnatipartite, subsessile, serrate at the acuminate point, *tertiary* subfalcate-oblong, bluntish, *bluntly serrate above, or subentire,* hairy chiefly on the minutely paleaceous midrib beneath, or glabrescent, fertile to beyond the middle: *rhachis unarmed,* secondary hispidulous-pubescent above, puberulous beneath; *indusium replaced by a minute palea:* receptacle globose, hairy.—A. phalerata, *β, Hook.* (Dominica!: *A. phalerata,* Mart., from his figure has a narrowly winged, secondary rhachis). A. caracasana, *Kl.*—Little different from the preceding, but by deeper-divided secondary segments and the unarmed rhachis; position of sori variable, in the same specimen either in the middle between the rib and margin, or more approximate to the latter; secondary segments 3″ long, 8‴–12‴ broad.—HAB. Jamaica!, *Macf.*; Dominica!, *Imr.*; [French islands!; Panama!, New Granada!, Peru!, *Spruce,* 4349, Guiana!].

333. **A. ferox,** *Pr.* Leaves 2-pinnatisect: *petiole prickly,* pubescent above, "bearing ovate, acuminate, deciduous scales:" secondary *segments* pinnatipartite, sessile, serrulate at the acuminate point, *tertiary* subfalcate, oblong-linear, blunt, *serrulate above, puberulous on the ribs beneath,* fertile to beyond the middle: *rhachis distantly prickly,* secondary pubescent above, puberulous or glabrescent beneath, tertiary pubescent on both sides; *indusium none:* receptacle globose, hairy.—*Mart. Ic. Crypt. Bras. t.* 48.—A. armata, *Mart.* (*non Pr.*). A. aculeata, *Kze.!*—Secondary segments 3″ long, 6‴–8‴ broad; prickles 3‴–6‴ long.—HAB. Trinidad (*J. Sm.*); [Panama!, Guiana!, Brazil!].

334. **A. armata,** *Pr.* Leaves 2-pinnatisect: *petiole prickly,* "closed at the base with long, brown scales:" secondary *segments* pinnatipartite, sessile, serrate at the acuminate point, *tertiary* subfalcate, oblong-linear, blunt, *serrate to the base, villous* chiefly on the ribs *beneath,* fertile to the summit: *rhachis muricate,* second and tertiary pilose; *indusium none:* receptacle globose, hairy.—*Mart. Ic. Crypt. Bras. t.* 49.—Polypodium, *Sw.* A. Swartziana, *Mart.*—Trunk "15′–30′ high;" secondary segments 4″–3″ long, 8‴–6‴ broad.—HAB. Jamaica!, *Pd.*, in mountain-woods, S. Georges; [Panama! Venezuela!, Brazil!].

48. HEMITELIA, *R. Br.* (*emend.*).

Sori globose, dorsally inserted beyond the forking or near the marginal summit of simple veinlets: *indusium* dimidiate-inferior, broadly embracing the sorus, persistent: receptacle prominent.—Leaves *pinnatisect, rarely 2-pinnatisect:* veinlets of *Cyathea, but the lowest mostly anastomosing.*

Several species, presenting the habit of *Cyathea* and *Alsophila,* I exclude from *Hemitelia* (e. g. *H. capensis, Parkeri, guianensis,* etc.), and, according to the insertion of their sori, would transfer them to *Alsophila,* near *A. aspera:* hence my *Hemitelia* is the same as *Cnemidaria,* Pr., while *Hemitelia,* Pr., is drawn to *Alsophila.* An exception however to this arrangement (as often occurs at the limits of Fern-genera) is presented by *Alsophila Weigeltiana,* Roem. (Pl. Kappler. 1355): for in this species I find the sori differently

inserted, either at the forking of the veinlets, or more rarely at the back of one of their branches, though, as there is no indusium, there can be no doubt of its being an *Alsophila*.

335. **H. horrida,** *R. Br.* Leaves pinnatisect: *segments pinnatipartite* (or pinnatisect at the base), sessile, *secondary lanceolate-acuminate, entire* or *serrulate above:* most veinlets 3–4-partite, superior free, *petiole prickly; sori in a continuous, irregular, juxtamarginal line.—Plum. Fil. t.* 8. *Hook. Gen. t.* 4: *analyt.*—Polypodium, *L.*—Trunk low, but often "1′ diam." (*Pd.*); segments 1¼′–2′, secondary 2″–3″ long, the latter 6‴–8‴ broad.—HAB. Jamaica!, *Macf.*, *Pd.*, *Bancr.;* S. Vincent!; Trinidad!; [Cuba! to French islands; Venezuela!, Peru!].

336. **H. Hookeri,** *Fée.* Leaves pinnatisect: *segments pinnatipartite,* pinnatisect at the base, sessile, *secondary lanceolate-acuminate, coarsely crenate* below the subentire summit: veinlets pinnately divided, all, except the lowest, free: *rhachis muricate; sori in a continuous, regularly sinuate line.—Hook. Spec. t.* 15.—H. horrida, *Hook.* (*ex parte*).—Habit and proportions of the preceding, but vein-branches numerous, usually 4–3-jugal.—HAB. Jamaica!, *Macf.;* [Cuba!, *Lind.* 1735].

337. **H. Imrayana,** *Hook.!* Leaves pinnatisect: *segments pinnatipartite,* sessile, *secondary oblong-lanceolate, shortly acuminate, bluntly serrate,* or subentire below the serrulate summit: veinlets pinnately divided, all, except the lowest, free: *rhachis unarmed; sori in a continuous, irregular, juxtamarginal line.—Hook. Ic. t.* 669.—Segments 1′, secondary 1½″ long, the latter 4‴–5‴ broad, superior gradually shorter: veinlets usually 2-jugal.—HAB. Dominica!, *Imr.;* [Guadeloupe!].

338. **H. grandifolia,** *Spreng.* Leaves pinnatisect: *segments pinnatifid to beyond the middle,* gradually less divided toward the summit, sessile: *lobes oblong, blunt,* serrulate at the top or subentire: most veinlets 2–3-partite, all, except the lowest, free: rhachis unarmed: petiole "prickly;" *sori in a regular, juxtamarginal line,* continuous or interrupted at the summit of the lobe, *innermost approaching the midrib.—Plum. Fil. t.* 26. *Hook. Spec. t.* 14. *B.*—H. Kohautiana, *Kze.!* (*ex Sieb. Mart.* 375).—Segments 10″–12″ long, about 1½″ broad, lobes 4‴ broad.—HAB. Jamaica; S. Kitts, S. Vincent!; Trinidad!, *Lockh.;* [French islands!].

339. **H. obtusa,** *Kaulf.* Leaves pinnatisect: *segments pinnatifid to about the middle,* gradually less divided towards the summit, sessile: *lobes subfalcate-oblong, bluntish,* serrulate: most *veinlets* simple or forked, *all, except the lowest, free:* ribs paleaceous beneath: rhachis unarmed or "nearly so:" petiole "prickly below;" *sori in a regular, juxtamarginal line,* continuous, *innermost approaching the midrib.*—Segments 6″–8″ long, 1″ broad, lobes 3‴ broad.—HAB. S. Vincent!, *Guild.;* [Martinique!; Venezuela!].

340. **H. speciosa,** *Kaulf.* (*non Hook.*). Leaves pinnatisect: *segments shortly pinnatifid to about one-fourth,* sessile: *lobes obliquely ovate-roundish,* serrulate at the rounded summit: *veinlets* forked or simple, *anastomosing below the sinus:* ribs not paleaceous: rhachis and petiole unarmed; *sori in a regular, deeply sinuate line,* continuous, exterior parallel to the margin, *innermost distant from the midrib.—Mart. Ic. Crypt. Bras. t.* 48. *f.* 2. *Hook. Spec. t.* 14. *A.;* sori too near the midrib.—Cyathea, *Humb. sec. Kl.* H. subincisa, *Kze.* H. obtusa, *Hook.* (*ex parte*).—Segments 1′ long, 1½″ broad, lobes 4‴–5‴ broad.—HAB. Trinidad!, *Lockh.*, *Sch.;* [Venezuela, Guiana!, Peru!].

CORRECTIONS.

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5. *Anona squamosa;* cancel from synonyms "*A. bullata,* Rich."
6. *Xylopieæ;* cancel "petals valvate:" *Oxandra* has imbricate petals.
10. *Hyperbæna,* Mrs., and *Chondodendron,* R. P., prove both to be distinct genera, the former having exalbuminous seeds, the latter monadelphous stamens (Benth. Hook.).
20. *Steriphoma; for* "berry globose" *read* berry cylindrical-curved (Cr. in lit.).
20. *Lunania;* corrections to Char. gen.: calyx closed in the bud, 2-valved to the base, stamens 6–12(–5): anthers extrorse; ovary with 3(–4) placentas. Cancel "Cuba, *Linden,* 2130."
22. *Thiodia* comprises: 1°, *Zuelania,* Rich., to which the Char. gen. and *T. lætioides* belong; and 2°, *Thiodia,* Benn., not analysed by myself, but according to Planchon (Ann. Sc. Nat. iv. 17, p. 114) devoid of glandular staminodes: it is to be compared with my *Casinga,* presenting the habit of *Casearia.*
24. *Samyda;* add to Char. gen. (from a new Cuba species): stamens –18, and the staminal tube produced into elongated filaments.
27. *Polygaleæ.* Char. fam.: *for* "perisperm" *read* endosperm.
29. *Badiera diversifolia;* add to diag.: seeds glabrous.
31. *Euphorbiaceæ.* Char. fam.: *for* "perisperm" *read* endosperm.
31. *Tricera fasciculata.* Add syn.: *Buxus Purdieana,* Baill.
32. *Drypetes;* cancel the note on *D. glomerata:* for I have seen true *Drypetes*-forms with glomerate flowers.
34. *Anisonema; for* "entire column" *read* entire or 3-fid column.
36. *Jatropha Curcas;* cancel "a weed:" the plant grows 10′–20′ high (Cr. in lit.).
44. *Argythamnia candicans: for* "styles "4–8-fid" *read* styles 2–3–8-fid.
45. *Bernardia;* corrections to Char. gen.: flowers diœcious or monœcious: styles 3-4-partite, lacerate; seeds subglobose, ecarunculate, smooth. Female flowers in axillary or subterminal spikes.
46. *Lasiocroton;* corrections to Char. gen.: ♂ calyx 5(–4)-partite; stamens 10–14(–7), inserted on the inner side of a thickish lobed disk; ♀ calyx 5-partite; styles 3, short, thickened and lacerate-crenate above. Female flowers in axillary racemes.
50. *Omphalea triandra;* cancel P. Browne's figure.
53. *Euphorbia serpens;* add syn.: *E. Balbisii,* Boiss., who distinguishes *E. serpens* by an annual root.
55. *Drymaria; for* "styles 3" *read* style 3-partite–3-fid.
57. *Portulaca oleracea;* for "*β. parviflora*" read *β. parvifolia,* Haw.
57. *P. pilosa;* add: there occurs a yellow-flowered variety (*March, Wright*).
59. *Microtea debilis; for* "Sw. t. 10" *read* t. 12. Add: Sieb. tr. 134.
59. *Rivina lævis; for* "calyx-divisions appressed" *read* calyx-divisions appressed to the fruit, at length reflexed.
65. *Iresine aurata;* add syn.: *Gomphrena Berteriana,* Balb.! in Herb. Berter. Portoric.
66. *Lithophila; for* "T. Hook." *read* J. D. Hook.
66. *L. muscoides;* add: Antigua!, *Wullschl.;* [Cuba!].
67. *Alternanthera Achyranthera;* add syn.: *A. ficoidea,* Balb. in Herb. Berter. (non R. Br.).
70. *Pisonia nigricans;* cancel from synonyms "*P. discolor,* Spr."

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75. *Sida ulmifolia;* add: there occurs a form with the leaves covered with stellate down beneath.—HAB. Antigua!, *Wullschl.*; Trinidad!, *Sieb. tr.* 167.

77. *Wissada.* In a form sent by Crueger from Trinidad I find 2-seeded carpels; hence *Wissada*, as Bentham and J. D. Hooker have suggested, is better considered as a congener of *Wissadula*.

82. *Pavonia typhaleoides; for* "petals yellow" *read* petals white (*Wright*).

85. *Hibiscus Bancroftianus; for* "corolla 14'''" *read* corolla 14''' or shorter.

89. *Helicteres semitriloba;* add: fruit blunt at the base; syn. *H. furfuracea*, Rich.; cancel from synonyms *H. trapezifolia*, Rich., in which the fruit is longer and tapering at the base.

90. *Cola acuminata; for* "naturalized in Trinidad" *read* cultivated in Trinidad (Cr. in lit.).

92. *Buettneria microphylla.* Wright's Cuba plant (in fruit) has crenate or dentate leaves, while in Sir R. Schomburgk's Haiti-specimen they are entire: both are to be compared with better materials, and the former approaches much *Ayenia pusilla*.

95. For "*Pentalopes*" read *Pentapetes*.

98. *Apeiba Tibourbou.* The Trinidad form (β. *membranacea*, Lockh.) is distinguished by less rigid leaves, which are devoid of rugosities on their upper side, and by shorter bristles of the calyx.

100. *Condalia ferrea; for* "5 stigma-lobes" *read* 2.

103. *Ternstrœmia obovalis;* cancel "silky" in the description of the seed.

103. For "*Cleyera*, Thunb." read *Cleyera*, Chois.; corrections to Char. gen.: sepals of *Ternstrœmia*, but two exterior abortive; anthers erect, hairy; ovary-cells 8–16-ovulate.

104. *Freziera hirsuta;* cancel from synonyms "*Ternstrœmia cuneata*, Macf."

105. *Quiina; for* "cotyledons at length cohering" *read* cotyledons distinct.

106. *Tovomita;* corrections to Char. gen. from Planchon's and Triana's monograph: sepals 2–4, two exterior including the bud; petals 4–8; anthers usually minute: ovary 4-celled; stigmas 4; seeds enclosed by a loose testa with vessels radiating from the hilum. Hence my new species are to be excluded from *Tovomita*: 1°, *T. havetioides* is *Clusia (?) havetioides*, Pl. Tr., its congener *T. clusioides*, Gr., a Cuba species of which the ♂ only is known; 2°, *T. Plumieri* appears to belong to *Tovomitopsis*, Pl. Tr. (reduced by Bentham and J. D. Hooker to *Chrysachlamys*, Pœpp., though disagreeing by having 2 sepals); the loose membrane, enclosing the seed, is here devoid of vessels, and the number of stigmas usually 5; add to its diagnosis: ♂ sepals 2; stamens shortly united at the base: filaments much longer than the linear (¼''' long) anthers.

107. *Clusia; for* "cotyledons distinct" *read* embryo undivided. Cancel: anthers linear, extrorse.

107. *C. rosea;* add: stamens in ♂ exterior pluriserial, sterile interior ones forming a subglobose mass.

107. *C. alba;* add: stamens in ♂ distinct. My ♂ specimens (Antigua!, *Wullschl.*) have 5 petals, and agree with Jacquin's description; several Cuba specimens (*C. alba*, Pl. Wr.) however belong to *C. minor*, L. sec. Pl. Tr. (*C. pratensis*, Seem.!, *C. Couleti*, Duchass.), distinguished by a much smaller calyx and smaller leaves: I do not possess this species from the British islands.

107. *C. flava*, L.; add: stamens distinct.

107. *C. venosa*, Jacq.; add: stamens in ♂ cohering at the base: anthers linear, as long as the free part of the filament.

107. *Moronobea coccinea;* for this name an older synonym, viz. *Symphonia globulifera*, L. fil., is to be substituted; the embryo is said to be undivided.

107. *Mammea; for* "ovary-cells multiovulate" *read* 1–2-ovulate. My two sections of this genus, as Planchon and Triana have proved against me, are to be regarded as two distinct genera, viz.:

1°. *Rheedia*, L. Sepals 2. Stamens inserted round a disk: anthers minute, roundish, etc. Embryo ovoid, undivided.—Leaves not dotted: petiole furrowed at the base by an axillary, adnate stipule.

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2°. *Mammea*, L. Calyx closed in the bud, 2-valved. No disk. Cotyledons distinct.—Leaves pellucid-dotted, exstipulate.

107. *Rheedia*, Gr. (Pl. Wright.), of which now a second species has been found by Mr. Wright (a synonym of which is *Clusia acuminata*, Spreng.), has a 5–4-celled ovary, supported by a cupulate disk, and the leaves awned-mucronate, much smaller than in *Rheedia*, L.; the immature seeds have a very thick testa, while in *Rheedia lateriflora* the testa in the ripe seed is membranaceous, and adhering to the embryo: as long as the grown-out fruit of the former is unknown, it is only to be regarded as a doubtful congener.

108. *Calophyllum; for* "cotyledons cohering" *read* cotyledons distinct.

111. *Marila grandiflora*. The anthers open by 2 minute pores near the terminal gland: from this character as well as from habit this species approaches *Cespedesia* among *Ochnaceæ*.

123. *Serjania lucida; for* "leaflets 5″–2″ long" *read* leaflets 1″–2″ long.

129. *Trichilia hirta;* add syn. *Barbilus*, P. Br.?

131. *Guarea Swartzii;* add: fruit nearly ecostate, subglobose, glabrous, about 6‴ diam. (from Trinidad specimens).

131. *Swietenia Mahagoni;* add: Bahamas! (Catesb. 2. t. 81. sup.); put a query to Hab. Trinidad, where this tree is said not to be indigenous (Cr. in lit.).

137. Cancel the two first lines.

140. *Picramnia antidesmoides;* add ♂: stamens 5, long exserted.

145. *Cyrilleæ*. The ovary-cells of *Cyrilla antillana* are said to be 3(2–4)-ovulate (Wright in lit.).

145. *Maytenus gonocladus*, for this name read *M. tetragonus*, J. Martius having named a Brazil species *M. gonocladus*.

145. *Elæodendron attenuatum;* for this name read *E. diœcum*, Gr.; for Richard's species proves distinct.

147. *Ilex montana;* cancel from synonyms *I. minutiflora*.

147. *Ilex sideroxyloides;* add syn. *Myrsine Rapanea*, Sieb. Mart. 283.

150. *Sponia micrantha;* add syn. *Urtica alnifolia*, in Pl. Berter.

150. *Sponia mollis; for* "W." *read* Desc.; and add syn. *Celtis mollis*, W.

153. *Cecropia peltata;* from this, *C. obtusa*, Tréc., is distinguished by the leaves wholly snow-white beneath, and the lobes ovate-roundish, rounded-bluntish: to it belong Sloane's figures and Wullschlaegel's Jamaica specimens.

160. *Phenax;* add syn. *Gymnogyne*, Didrichs. 1850 (non P. B.).

161. *Polygonum glabrum;* add syn. *P. densiflorum*, Meissn.!, a form with exserted sexual organs.

173. *Bursera gummifera;* add: Catesb. Carol. i. t. 30.

182. *Tephrosia brevipes;* for "*Erioseme*" read *Eriosema*.

185. *Zornia*. Sloane's figure (t. 116. f. 3) proves to belong to a species allied to *Z. myriadena*, Benth., found again in Cuba by Wright: I call it *Z. Sloanei*.

205. *Cæsalpinia bijuga;* for "*C. ventricosa*" read *C. vesicaria*, L.

210. *Cassia lineata;* cancel from synonyms "*C. cuneata*, DC."

215. *Prioria copaifera;* add: Ic. Benth. in Linn. Transact. 1863.

217. *Piptadenia peregrina; for* "cultivated in Trinidad" *read* wild and cultivated.

222. *Acacia Vincentis;* add: legume broadly linear, straightish, thickish-compressed, glabrous, tapering at the base: margin sinuate.

226. *Pithecolobium micradenium;* for "*T. Brongniartii*" read *P. Brongniartii*.

229. *Hirtella silicea*. Mr. Crueger sends now another *Cauto*, named by him *Moquilea*, while his *Cauto*, formerly sent under this name, was *Hirtella silicea*: the specimens of his second *Cauto* are sterile, and from the foliage may be compared with *Couepia guianensis*, Aubl.

286. For "*Cionandra*" read *Trianosperma*, Mart., which, upon Naudin's authority, is an older name for this genus.

297. For "*Triacis*" read *Bohadschia*, Prl., which, upon Asa Gray's authority, is an older name for this genus.

310. For "*Schœpfia Marchii*" read *S. chrysophylloides*, Pl. (*Diplocalyx*, Rich. Cub. t. 54: the analysis of the ovary is erroneous).

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314. *Arceuthobium;* correction to Char. gen., flowers diœcious or monœcious.
319. *Cordiera;* cancel Richard's erroneous character of the fruit: for *Alibertia*, (berry many-seeded), as well as *Thieleodoxa* (berry "few-seeded") will prove its congeners.
401. *Dipholis montana;* add syn. *Bumelia montana*, Sw.
423. For "*Slevogtia*," upon Klotzsch's authority, *Enicostema*, Bl., as an older name of this genus, is to be substituted.
452. *Stemonacanthus coccineus;* add syn. *Arrhostoxylon*, Ns.
486. For "*Heliotropium parviflorum*" read *H. parciflorum*.
506. *Potamogeton plantaginea;* for "*P. Zigii*" read *P. Zizii*.
592. *Æchmea*, sect. *Hohenbergia; for* "ovules naked" *read* o. beaked.

LIST OF SPECIES RECEIVED SINCE THE IMPRESSION OF THE FIRST VOLUME.

Casinga procera, *Gr.* (Samyda, *Pœpp.;* Lætia casearioides, *Sagot !*).—Trinidad !, *Cr.* [Guiana !, eq. Brazil].

Ionidium Poaya, *St. Hil.* (Pombalia Itubu, *Ging.*). — Trinidad !, *Cr.;* [Guiana !, Brazil].

Phyllanthus (Asterandra) smilacifolius, *Gr.* (*n. sp.*).—Trinidad !, *Cr.*

Cnidoscolus herbaceus, *Baill.* (Iatropha, *L.*).—Trinidad !, *Sieb. tr.* 292.

Alchornea glandulosa, *Pœpp.*—Trinidad !, *Cr.;* [Brazil !, *Spruce*, 2117].

Pera arborea, *Mut.* (*ex ic. Mut.*).—Trinidad !, *Cr.;* [Venezuela].

Suæda fruticosa, *Forsk.*—Turk islands !, *Hjalmars.;* [seashore of the warmer parts of the globe].

Pisonia ferruginea, *Kl.* (*ex descr.*).—Trinidad !, *Cr.*

P. discolor, *Spreng.*—Jamaica !, *March;* [Cuba !].

Abutilon confertiflorum, *Rich.*—Trinidad !, *Cr.;* [Cuba !].

Fugosia heterophylla, *Benth., Hook.* (Redoutea, *Vent.*).—Trinidad !, *Cr.;* [S. Thomas; Venezuela].

Heliocarpus americanus, *L.*—Trinidad !, *Cr.;* [Mexico !].

Apeiba Petoumo, *Aubl.* (*t.* 215).—Trinidad !, *Cr.;* [Guiana].

Sloanea guianensis, *Benth.* (Ablania, *Aubl. t.* 234).—Trinidad !, *Cr.;* [Guiana].

Clusia nemorosa, *Mey. !*—Trinidad !, *Cr.;* [Guiana !, Brazil].

Bunchosia glandulifera, *Kth.*—Trinidad !, *Cr.;* [Venezuela !].

Ratonia domingensis, *DC.*—Trinidad !, *Cr.;* [Haiti].

Talisia hexaphylla, *V.*—Trinidad !, *Cr.*

Ravenia spectabilis, *Pl.* (Lemonia, *Lindl. Bot. Reg.* 1840. *t.* 59).—Jamaica !, *March;* [Cuba !].

Schæfferia Marchii, *Gr.* (*n. sp.*).—Jamaica !, *March.*

Ficus Radula, *W.*—Trinidad !, *Cr.;* [Panama ! to Brazil].

F. gemina, *R. P.*—Trinidad !, *Cr.;* [Peru].

Mühlenbeckia tenuifolia, *Meissn.?* (specimens insufficient).—Trinidad !, *Cr.*

Coccoloba Cruegerii, *Gr.* (*n. sp.*).—Trinidad !, *Cr.*

Ruprechtia Cruegerii, *Gr.* (*n. sp.*).—Trinidad !, *Cr.*

Chætocalyx brasiliensis, *Benth.*—Trinidad !, *Cr.;* [Guiana to Brazil].

Ormosia coarctata, *Jacs.*—Trinidad !, *Cr.;* [Guiana].

Swartzia triphylla, *W.*—Trinidad !, *Cr.;* [Guiana !].

Peltogyne porphyrocardia, *Gr.* (*n. sp.*).—Trinidad !, *Cr.*

Piptadenia suaveolens, *Miq.*—Trinidad !, *Cr.;* [Guiana].

Calliandra marginata, *Gr.* (*n. sp.*).—Trinidad !, *Cr.*

C. lasiopus, *Gr.* (Pithecolobium, *Benth.*).—Trinidad!, *Cr.*; [Guiana!].
Pithecolobium pubescens, *Benth.*—Trinidad!, *Cr.*; [Venezuela!, Guiana].
Juga venosa, *Gr.* (*n. sp.*).—Trinidad!, *Cr.*
Chrysobalanus cuspidatus, *Gr.* (*n. sp.*).—Dominica!, *Imr.*
Licania crassifolia, *Benth.*—Trinidad!, *Cr.*; [Guiana!].
Myrcia leptoclada, *DC.*—Trinidad!, *Cr.*; [Haiti to Guiana!].
Eugenia riparia, *DC.* (E. Schlechtendalii, *Bg.*; E. *no.* 5. *Pl. Spruce*).—Trinidad!, *Cr.*; [eq. Brazil!].
E. rigidifolia, *Rich.*—Jamaica!, *M'Nb.*; [Cuba!].
Lecythis lævifolia, *Gr.* (*n. sp.*).—Trinidad!, *Cr.*
Clidemia conglomerata, *DC.*—Trinidad!, *Cr.*; [Guiana!].
Diplochita macrotis, *Gr.* (*n. sp.*).—Trinidad!, *Cr.*
Miconia stenopetala, *Gr.* (*n. sp.*).—Trinidad!, *Cr.*
Combretum corylifolium, *Gr.* (*n. sp.*).—Trinidad!, *Cr.*
Phœbe membranacea, *Ns.*—Dominica!, *Imr.*; [Portorico!, Guadeloupe].
Persea nutans, *Ns.*—Dominica!, *Imr.*
Nectandra salicifolia, *Ns.*—Dominica!, *Imr.*; [Cuba! to Guiana!].
Oreodaphne strumosa, *Gr.*—Trinidad!, *Cr.*; [Guadeloupe].
Phorodendron quadrangulare, *Gr.* (Viscum, *DC.*).—Trinidad!, *Cr.*; [New Granada].

LIST OF THOSE BOTANISTS WHO HAVE CHIEFLY CONTRIBUTED MATERIALS TO THIS FLORA.

Recent Collections, *from*

Bahamas: Swainson (Swains.), Hjalmarsson (Hjalmars.).
Jamaica, entire collections: Macfadyen (Macf.), March, Alexander Prior (Al.), Purdie (Pd.), Wilson (Wils.), Wullschlaegel (Wullschl.); miscellaneous: Bancroft (Bancr.), Distin (Dist.), G. Don, Fraser, Hartweg (Hartw.), Higson, M'Nab (M'Nb.), Oersted, Waters, Wiles.
S. Kitts: Elsey (Els.).
Antigua: Nicholson, Wullschlaegel.
Dominica: Imray (Imr.).
S. Vincent: Guilding (Guild.).
Barbadoes: Lane, Maycock (Mayc.).
Grenada: Oersted (Oerst.).
Trinidad, entire collections: Crueger (Cr.), Lockhart (Lockh.), Purdie, De Schach (Sch.); miscellaneous: Bradford, Holton, Lane, Woodford.

Old Collections, *chiefly from*

Jamaica: Forsyth, Masson, Swartz (Sw.), Wright.
S. Lucia, S. Vincent: Anderson (Anders.).
Trinidad: Sieber (Sieb.).

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Acom: *Dioscorea bulbifera.*
Adam's needle: *Yucca aloifolia.*
Adrue: *Cyperus articulatus.*
Akee: *Blighia sapida.*
Alder tree, West Indian: *Conocarpus erectus.*
All-heal: *Micromeria obovata.*
Alligator-apple: *Anona palustris.*
Alligator-pear: *Persea gratissima.*
Alligator-wood: *Guarea Swartzii.*
Allspice: *Pimenta vulgaris.*
Almond tree: *Terminalia Catappa.*
Aloe, Aloes; *Aloe vulgaris.*
Aloe, American: *Agave americana.*
Aloe-wood: *Cordia Sebestana.*
Ananas: *Ananassa sativa.*
Ananas, wild: *Bromelia Pinguin.*
Anchovy-pear tree: *Grias cauliflora.*
Angeleen tree: *Andira inermis.*
Angelica tree: *Sciadophyllum Brownei.*
Antidote-cocoon: *Feuillea cordifolia.*
Arbour-vine, Spanish: *Ipomæa tuberosa.*
Arnotta: *Bixa Orillana.*
Arracacha: *Arracacha esculenta.*
Arrow-head: *Sagittaria acutifolia.*
Arrow-root: *Maranta arundinacea* and *indica.*
Avocado-pear: *Persea gratissima.*

Bachelor's-button: *Gomphrena.*
Badinjan: *Solanum Melangena.*
Bahama-grass: *Cynodon dactylon.*
Ballata tree (Dominica): *Bumelia retusa.*
Balsam, broad-leaved: *Sciadophyl. capitatum.*
Balsam, yellow: *Croton flavens.*
Balsam-apple: *Momordica Balsamina.*
Balsam-fig: *Clusia rosea.*
Balsam-herb: *Dianthera repens.*
Balsam tree: *Clusia rosea.*
Bamboo: *Bambusa, Arthrostylidium, Chusquea,* and *Panicum divaricatum.*
Banana: *Musa sapientum.*
Baobab: *Adansonia digitata.*
Barbadoes-pride: *Cæsalpinia pulcherrima* and *Adenanthera pavonina.*
Barilla: *Batis maritima.*
Basil: *Ocimum basilicum.*
Basket-hoop: *Croton lucidus.*
Basket-withe: *Tournefortia volubilis.*
Bayberry tree: *Pimenta acris.*
Bead tree: *Ormosia dasycarpa.*
Bead-vine, red: *Rhynchosia.*
Bean, Asparagus: *Dolichos sesquipedalis.*
Bean, French: *Phaseolus vulgaris.*
Bean, Hibbert: *Phaseolus lunatus.*
Bean, Horse: *Canavalia gladiata.*
Bean, Horse-eye: *Mucuna urens.*
Bean, Kidney: *Phaseolus vulgaris.*
Bean, Lima: *Phaseolus lunatus.*
Bean, red: *Vigna unguiculata.*
Bean, seaside: *Canaralia obtusifolia* and *Vigna luteola.*
Bean, Sugar: *Phaseolus lunatus.*
Bean, Sword: *Canavalia gladiata.*
Bean, Yam: *Dolichos tuberosus.*
Bean, Year: *Phaseolus vulgaris.*
Bean-tree, red: *Erythina Corallodendron.*
Beech, seaside; *Exostemma caribæum.*
Beef-apple; *Sapota rugosa.*
Beef-wood, red: *Ardisia coriacea.*
Beef-wood, small-leaved white: *Schæpfia chrysophylloides.*
Bell-flower, American red: *Ipomæa Quamoclit.*
Belly-ache bush: *Jatropha gossypifolia.*
Ben-nut: *Moringa pterygosperma.*
Bichy: *Cola acuminata.*
Bilimbi: *Averrhoa Bilimbi.*
Bilberry, Jamaica: *Vaccinium meridionale.*
Bimbling: *Averrhoa Bilimbi.*
Birch, West Indian: *Bursera gummifera.*
Bitch-wood: *Lonchocarpus latifolius.*
Bitter-ash: *Picræna excelsa.*
Bitter-wood: *Xylopia, Simaruba,* and *Picramna.*
Bitter-wood, white: *Trichilia spondoides.*
Black-bead shrub: *Pithecolobium unguis-cati.*
Bladder-wort: *Utricularia.*
Bleeding-heart: *Colocasia esculenta.*
Blood-flower: *Asclepias curassavica.*

Blood-wood : *Laplacea Hæmatoxylon.*
Bonace-bark : *Daphnopsis tinifolia.*
Bonavist : *Dolichos Lablab.*
Bottle-gourd : *Lagenaria vulgaris.*
Bottle-cod-root : *Capparis cynophyllophora.*
Boxwood : *Vitex umbrosa.*
Branda : *Chione glabra.*
Brazil nuts : *Bertholletia excelsa.*
Braziletto, Bahama : *Cæsalpinia crista.*
Braziletto, bastard : *Weinmannia pinnata* and *Sciadophyllum capitatum.*
Braziletto-wood : *Peltophorum Linnæi.*
Bread-fruit : *Artocarpus incisa.*
Bread-nut : *Brosimum Alicastrum.*
Bread-nut, bastard : *Pseudolmedia spuria.*
Break-axe : *Sloanea jamaicensis.*
Broad-leaf tree : *Terminalia latifolia.*
Broom-bush : *Parthenium Hysterophorus.*
Broom-tree, mountain : *Baccharis scoparia.*
Broom-weed : *Corchorus siliquosus.*
Broom-weed, sweet : *Scoparia dulcis.*
Bryony, bastard : *Cissus sicyoides.*
Buckwheat : *Anredera scandens.*
Buckthorn : *Rosa lævigata.*
Bull-apple tree : *Sapota rugosa.*
Bull-hoof : *Passiflora Murucuja.*
Bully-tree : *Sapota Sideroxylon* and *Myrsine læta.*
Bully-tree, bastard : *Dipholis nigra.*
Bully-tree, black : *Dipholis nigra.*
Bully-tree, mountain : *Dipholis montana.*
Bully-tree, red : *Dipholis nigra.*
Bully-tree, white : *Dipholis salicifolia.*
Bur-bark : *Triumfetta semitriloba.*
Burweed : *Triumfetta.*
Burn-nose : *Daphnopsis tinifolia.*
Burnwood of Negroes : *Rhus Metopium.*
Burr-grass : *Panicum glutinosum.*
Button-tree : *Conocarpus erectus.*
Button-weed : *Spermacoce* and *Borreria.*

Cabbage : *Brassica oleracea.*
Cabbage-bark tree : *Andira inermis.*
Cabbage-palm, Barbadoes : *Oreodoxa oleracea.*
Cabbage-palm, mountain : *Euterpe oleracea.*
Cabbage-tree : *Oreodoxa oleracea* and *Andira inermis.*
Cacao : *Theobroma Cacao.*
Cacoons : *Entada scandens.*
Calabash-nutmeg : *Monodora Myristica.*
Calabash tree : *Crescentia.*
Calalu : *Phytolacca.*
Calalu, branched : *Solanum nodiflorum.*
Calalu, green : *Euxolus viridis.*
Calalu, prickly : *Amarantus spinosus.*
Calalu, Spanish : *Phytolacca octandra.*
Calalu, small-leaved : *Euxolus caudatus.*
Caltrop : *Tribulus maximus.*
Calavance : *Dolichos sphærospermus.*
Campeachy-wood : *Hæmatoxylon campechianum.*
Candle-wood : *Sciadophyllum capitatum.*
Candle-wood, white and black : *Amyris balsamifera.*
Cane, sugar : *Saccharum officinarum.*
Cane, wild : *Arundo occidentalis* and *saccharoides.*
Cane-piece, sensitive-plant : *Cassia glandulosa.*
Cane-killer : *Alectra brasiliensis.*
Canker-berry : *Solanum bahamense.*
Cannou-ball tree : *Couroupita guianensis.*
Capet tree : *Capparis verrucosa.*
Carrot : *Daucus Carota.*
Cascarilla-bark : *Croton Eluteria.*
Casbaw : *Prosopis juliflora.*
Cashew tree : *Anacardium occidentale.*
Cassava or Cassada : *Janipha Manihot.*
Cassava, wild : *Jatropha gossypifolia.*
Cassava-wood : *Turpinia occidentalis.*
Cassia, broom : *Cassia glandulosa.*
Cassia-stick tree : *Cassia Fistula.*
Castor-oil : *Ricinus communis.*
Cat-claw : *Bignonia unguis.*
Cauto : *Hirtella silicea.*
Cedar, bastard : *Guazuma tomentosa.*
Cedar, Bermudas : *Juniperus barbadensis.*
Cedar, West Indian : *Cedrela odorata.*
Celandine : *Bocconia frutescens.*
Cerasee : *Momordica charantia* and *balsamina.*
Chaw-stick, red : *Gouania domingensis.*
Ché : *Oldenlandia umbellata.*
Cherimolia : *Anona Cherimolia.*
Cherry, Barbadoes : *Malpighia.*
Cherry, bastard : *Ehretia tinifolia.*
Cherry, broad-leaved : *Cordia macrophylla.*
Cherry, clammy : *Cordia Collococca.*
Cherry, Jamaica : *Ficus pedunculata.*
Cherry, West Indian : *Malpighia* and *Bunchosia.*
Chickweed : *Drymaria cordata.*
Chickweed, African : *Mollugo.*
China-root : *Cissos sicyoides.*
China-wythe : *Smilax Balbisiana.*
Chocho : *Sechium edule.*
Christmas-gambol : *Ipomœa sidifolia.*
Christmas-pride : *Ruellia paniculata.*
Cinnamon, wild : *Canella alba* and *Pimenta acris.*
Cipre : *Cordia Gerascanthus.*
Citron : *Citrus medica.*
Clary, wild : *Heliotropium indicum.*
Climbing-vine : *Psychotria parasitica.*
Clove : *Pimenta acris.*
Clove-strip : *Jussiæa repens.*
Cloven-berry bush : *Samyda serrulata.*

Cob-nut: *Omphalea triandra.*
Cochineal: *Opuntia coccinellifera.*
Cock's head: *Desmodium tortuosum.*
Cockspur: *Pisonia aculeata.*
Cocoa-nut: *Cocos nucifera.*
Cocoa-plum: *Chrysobalanus Icaco.*
Cocoe: *Colocasia esculenta.*
Coco-wood: *Inga vera.*
Coffee: *Coffea arabica.*
Coffee, wild: *Faramea odoratissima, Zuelania lætioides,* and *Eugenia disticha.*
Cogwood: *Ceanothus Chloroxylon.*
Cohune-nut: *Attalea Cohune.*
Cola: *Cola acuminata.*
Coltsfoot: *Pothomorpha.*
Contrayerva: *Aristolochia.*
Copaiva tree: *Copaifera officinalis.*
Coral-bean tree: *Erythrina Corallodendron.*
Coratoe: *Agave* and *Fourcroya.*
Corkwood: *Anona palustris* and *Ochroma Lagopus.*
Corn, Chinese: *Setaria italica.*
Coromantee drum-wood: *Turpinia occidentalis.*
Cotton: *Gossypium religiosum.*
Cotton, French: *Gossypium hirsutum* and *Calotropis procera.*
Cotton, Nankeen: *Gossypium religiosum.*
Cotton tree, or silk-cotton tree: *Eriodendron anfractuosum.*
Cowitch: *Mucuna pruriens* and *Acidoton urens.*
Cowitch, twining: *Tragia volubilis.*
Crabwood: *Carapa guianensis.*
Cress: *Lepidium sativum.*
Cromanty: *Ratonia apetala.*
Crown-palm: *Maximiliana caribæa.*
Cuba-bark: *Paritium elatum.*
Cucumber, wild: *Cucumis sativus.*
Cucumber: *Cucumis Anguria.*
Cuckold's-increase: *Vigna unguiculata.*
Cudweed, golden: *Pterocaulon virgatum.*
Currant bush, Indian: *Miconia, Clidemia,* etc.
Currant tree: *Jacquinia armillaris, Beureria succulenta* and *havanensis.*
Custard-apple: *Anona,* e.g. *A. reticulata.*
Cutting-grass: *Scleria flagellum.*
Cypress-vine: *Ipomœa Quamoclit.*

Dagger-plant: *Yucca aloifolia.*
Damson, bitter: *Simaruba amara.*
Damson-plum: *Chrysophyllum oliviferum.*
Date-plum: *Diospyros tetrasperma.*
Date-tree: *Phœnix dactylifera.*
David's-root: *Chiococca racemosa.*
Deadly dwale: *Acnistus arborescens.*
Devil's-bean: *Capparis cynophallophora.*
Dildo: *Cereus Swartzii.*
Divi-deri: *Coulteria tinctoria.*
Divi-divi: *Lebidibia coriaria.*
Dodder: *Cuscuta.*
Dogwood: *Piscidia Erythrina.*
Dollee-wood: *Myristica surinamensis.*
Dove-wood: *Alchornea latifolia.*
Down-tree: *Ochroma Lagopus.*
Dragon's-blood: *Calodracon Sieberi.*
Dumb-cane: *Dieffenbachia Seguire.*
Dutch grass: *Panicum molle.*
Dutchman's butter: *Cassia glandulosa.*
Dutchman's Laudanum: *Passiflora Murucuja.*

Ear-wort: *Rhachicallis rupestris.*
Earth-nut: *Arachis hypogæa.*
Eboe-light, or Eboe-trechwood: *Erythroxylum brevipes.*
Ebony, green or West Indian: *Brya Ebenus.*
Eddoe: *Colocasia esculenta.*
Egg-plant: *Solanum Melongena.*
Elder, dwarf: *Pilea grandis.*
Elm, Spanish: *Cordia gerascanthoides* and *Hamelia ventricosa.*
Ettow: *Cordia Sebestana.*
Everlasting: *Gnaphalium.*
Eyebright: *Euphorbia maculata.*

Fan-palm: *Sabal* and *Thrinax.*
Feverfew, bastard: *Parthenium Hysterophorus.*
Fiddle-wood: *Citharexylum surrectum* and *quadrangulare,* and *Vitex umbrosa.*
Fiddle-wood, yellow: *Petitia domingensis.*
Fig, black: *Ficus laurifolia.*
Fig, broad-leaved: *Ficus crassinervia.*
Fig, red: *Ficus pedunculata.*
Fig, small-leaved red: *Ficus pallida.*
Fig, small-leaved white: *Ficus ochroleuca.*
Fig, wild: *Clusia flava.*
Fingrigo: *Pisonia aculeata.*
Fitweed: *Eryngium fœtidum.*
Five-finger: *Syngonium auritum.*
Fleabanes: *Vernonia arborescens.*
Flower-fence, Barbadoes: *Cæsalpinia pulcherrima.*
Flower-pride: *Cæsalpinia pulcherrima.*
Forbidden-fruit: *Citrus Aurantium,* var. *Paradisi.*
Four-o'clock-flower: *Mirabilis dichotoma.*
Foxglove: *Phytolacca.*
Foxtail-grass: *Anatherum bicorne* and *macrurum.*
Frenchweed: *Commelyna cayennensis.*
Furze: *Ulex europæus.*
Fustic: *Maclura tinctoria* and *Xanthoxylum.*

Galapee tree: *Sciadophyllum Brownei.*

Galba : *Calophyllum Calaba.*
Galimeta-wood : *Dipholis salicifolia.*
Garden-balsam : *Dianthera pectoralis.*
Garlick-pear tree : *Cratæva gynandra.*
Garlick shrub : *Adenocalymna alliacea.*
Gasparillo : *Esenbeckia.*
Gawse tree : *Lagetta lintearia.*
Genip tree : *Melicocca bijuga* and *Hypelate paniculata.*
Germander, bastard or seaside : *Stemodia maritima.*
Ginger : *Zingiber officinarum.*
Ginger, wild : *Renealmia* and *Costus.*
Ginger-grass : *Panicum glutinosum.*
Glasswort : *Salicornia ambigua.*
Goat-rue : *Tephrosia cinerea.*
Goat-weed : *Capraria biflora* and *Stemodia durantifolia.*
Gad-bush : *Arceuthobium gracile.*
Golden-locks : *Pterocaulon virgatum.*
Golden-spoon : *Byrsonima cinerea.*
Golden-tuft : *Pterocaulon virgatum.*
Gomatu-palm : *Arenga saccharifera.*
Gooseberry, American : *Heterotrichum patens.*
Gooseberry, Barbadoes : *Peirescia aculeata.*
Gout-tea : *Cordia globosa.*
Granadilla : *Passiflora.*
Granadilla tree : *Brya Ebenus.*
Grape, Jamaica : *Vitus caribæa.*
Grape, seaside : *Coccoloba.*
Grape, wild : *Coccoloba leoganensis.*
Grape-tree, chequered : *Coccoloba diversifolia.*
Grape-tree, mangrove : *Coccoloba uvifera.*
Grape-tree, small : *Coccoloba tenuifolia.*
Greenheart : *Colubrina ferruginosa.*
Greenheart, bastard : *Calyptranthes Chytraculia.*
Green-withe : *Vanilla claviculata.*
Grigri-palm : *Aiphanes corallina.*
Ground-nut : *Arachis hypogæa.*
Guava : *Psidium Guava.*
Guava, black : *Guettarda argentea.*
Guava, mountain : *Psidium montanum.*
Guinea-corn : *Sorghum.*
Guinea-grass : *Panicum maximum.*
Guinea-hen's weed : *Petiveria alliacea.*
Gum, doctor's : *Rhus Metopium.*
Gum-Elemi tree, or gum tree of Dominica : *Dacryodes hexandra.*
Gum tree : *Sapium laurifolium.*
Gum tree, Arabic : *Acacia arabica.*

Halbert-weed : *Neurolæna lobata.*
Hardwood tree : *Ixora ferrea.*
Headache-weed : *Hedyosmum nutans.*
Heart's-ease : *Viola tricolar.*
Heart-pea : *Cardiospermum.*
Hedge-mustard : *Chenopodium ambrosioides.*
Hemp-agrimony : *Eupatorium.*
Hemp-agrimony, bastard : *Ageratum conyzoides.*
Henna : *Lawsonia.*
Hog-gum, false : *Rhus Metopium.*
Hog-gum tree : *Moronobea coccinea.*
Hog-meat, poisoned : *Aristolochia grandiflora.*
Hog-plum : *Spondias lutea.*
Hogweed : *Boerhavia.*
Hogweed, poisoned : *Aristolochia grandiflora.*
Holly-rose : *Turnera ulmifolia.*
Honeysuckle : *Desmodium.*
Honeysuckle, West Indian : *Tecoma capensis.*
Hoop-tree : *Melia sempervirens.*
Hoop-withe : *Rivina* and *Colubrina asiatica.*
Horse-Cassia : *Cassia marginata.*
Horse-purslane : *Trianthema monogynum.*
Horseradish : *Cochlearia Armoracia.*
Horseradish tree : *Moringa pterygosperma.*
Horsewood : *Calliandra latifolia.*

Icaque : *Chrysobalanus Icaco.*
Incense tree : *Moschoxylon Swartzii.*
India-kale : *Xanthosoma atrovirens* and *Colocasia.*
India-mulberry : *Morinda citrifolia.*
India-rubber tree : *Forsteronia floribunda.*
India-rubber vine : *Cryptostegia grandiflora.*
Indian-corn : *Zea Mays.*
Indian-pink : *Ipomœa Quamoclit.*
Indian-shot : *Canna.*
Indigo : *Indigofera tinctoria* and *Anil.*
Indigo-berry : *Randia aculeata.*
Ink-berry : *Randia aculeata.*
Inga-tree : *Inga vera.*
Ipecacuanha, bastard : *Asclepias curassavica.*
Ipecacuanha, white : *Richardsonia scabra.*
Iron-shrub : *Sauvagesia erecta.*
Ironwood : *Sloanea jamaicensis* (Pd.), *Ternstrœmia,* and *Fagara Pterota.*
Ironwood, bastard : *Fagara lentiscifolia* and *Trichilia hirta.*
Ironwood, small-leaved : *Mouriria myrtilloides.*
Ivy : *Hedera.*

Jack-in-the-box : *Hernandia sonora.*
Jack-in-the-bush : *Cordia cylindrostachya.*
Jack-tree : *Artocarpus integrifolia.*
Jamaica-bark : *Exostemma.*
Jambolana tree : *Syzygium jambolanum.*
Jasmine : *Jasminum officinale.*
Jasmine, bastard : *Cestrum.*
Jasmine, French : *Calotropis procera.*
Jasmine, wild : *Faramea odoratissima* and *Ixora.*

Jasmine tree: *Plumieria rubra*, etc.
Jew's-mallow: *Corchorus olitorius.*
Jerusalem-thorn: *Parkinsonia aculeata.*
Job's-tears: *Coix Lacryma.*
John-Crow's-nose: *Phyllocoryne jamaicensis.*
Jolly, brown: *Solanum Melongena.*
Juba's bush: *Iresine celosioides.*
Juribali: *Moschoxylon Swartzii.*

Knife-grass: *Scleria latifolia.*

Lace-bark: *Lagetta lintearia.*
Lady-Coot: *Adenanthera pavonina.*
Lancewood: *Oxandra* and *Cananga.*
Lancewood, black: *Tournefortia laurifolia.*
Lapatero: *Copaifera officinalis.*
Laurel, seaside: *Phyllanthus latifolius, falcatus,* and *linearis.*
Laurel, West Indian: *Prunus occidentalis.*
Lead-tree: *Leucæna glauca.*
Leadwort: *Plumbago scandens.*
Lemon: *Citrus medica*, var. *Limonum.*
Lemon tree, bastard: *Fagara lentiscifolia.*
Libi-dibi: *Lebidibia coriaria.*
Licca tree: *Tobinia emarginata.*
Lignum-rorum: *Tobinia emarginata.*
Lignum-vitæ: *Guaiacum officinale.*
Lignum-vitæ, bastard: *Sarcomphalus laurinus.*
Lignum-vitæ, white: *Badiera diversifolia.*
Lilac, West Indian: *Melia sempervirens.*
Lily: *Pancratium, Crinum,* and *Amaryllis.*
Lily-thorn: *Catesbæa parviflora.*
Lime-myrtle: *Triphasia trifoliata.*
Lime tree: *Citrus Aurantium*, var. *spinosissima.*
Liquorice-vine: *Abrus precatorius.*
Liquorice, wild: *Abrus precatorius.*
Liquorice-weed: *Scoparia dulcis.*
Loblolly-bay: *Laplacea Hæmatoxylon.*
Loblolly-pine: *Pinus bahamensis.*
Loblolly-sweetwood: *Sciadophyllum Jacquini.*
Loblolly tree: *Pisonia subcordata* and *Cupania glabra.*
Locust tree: *Byrsonima coriacea* (March.) and *Hymenæa Courbaril.*
Locust tree, bastard: *Clethra tinifolia.*
Locust tree, larger: *Byrsonima cinerea.*
Logwood: *Ceanothus Chloroxylum.*
Logwood, bastard: *Acacia Berteriana.*
Logwood, Campeachy: *Hæmatoxylon Campechianum.*
Loosestrife: *Jussiæa suffruticosa.*
Love-in-a-mist: *Passiflora fœtida.*
Love-apple: *Lycopersicum esculentum.*
Lotus-berry: *Byrsonima coriacea.*

Macary-bitter: *Picramnia Antidesma.*
Mackaw bush: *Solanum mammosum.*
Mackaw tree: *Acrocomia sclerocarpa.*
Mackaw tree, great: *Acrocomia lasiospatha.*
Mad-apple: *Solanum Melongena.*
Madder, Indian: *Oldenlandia umbellata.*
Mafootoo-withe: *Entada scandens.*
Maguly: *Agave americana.*
Mahoe: *Paritium tiliaceum.*
Mahoe, blue: *Paritium elatum.*
Mahoe, bombast: *Ochroma lagopus.*
Mahoe, Congo: *Hibiscus clypeatus.*
Mahoe, grey: *Paritium elatum*, var. *macrocarpum.*
Mahoe, mountain: *Paritium elatum.*
Mahoe, seaside: *Thespesia populnea.*
Mahoe-piment: *Daphnopsis caribæa.*
Mahogany tree: *Swietenia Mahagoni.*
Mahogany, bastard: *Ratonia apetala.*
Mahogany, white or wild: *Stenostomum bifurcatum.*
Maiden-plum: *Comocladia integrifolia.*
Majoe-bitter: *Picramnia Antidesma.*
Maize: *Zea Mays.*
Mallow: *Malvastrum* and *Sida.*
Mallow, Indian: *Urena.*
Mammee-Sapota: *Lucuma mammosa.*
Mammee tree: *Mammea americana.*
Manatu-grass: *Thalassia testudinum.*
Manchioneal: *Hippomane Mancinella.*
Manchioneal, bastard: *Cameraria latifolia.*
Mango: *Mangifera indica.*
Mangrove: *Rhizophora Mangle.*
Mangrove, black: *Avicennia nitida.*
Mangrove, olive: *Avicennia nitida.*
Mangrove, white: *Laguncularia racemosa.*
Mangrove, Zaragoza: *Conocarpus erectus.*
Manjack: *Cordia macrophylla.*
Marygold: *Wedelia carnosa.*
Marygold, French: *Pectis punctata.*
Mastic tree: *Bursera gummifera.*
Mastwood, yellow: *Tobinia coriacea.*
May-flower: *Dalbergia Brownei* and *Hecastophyllum Brownei.*
Melon-thick: *Melolactus communis.*
Mignonetta tree: *Lawsonia inermis.*
Milkwood: *Pseudolmedia spuria.*
Milkwort: *Polygala paniculata.*
Millet: *Panicum miliaceum* and *Sorghum.*
Misletoe: *Loranthus, Phoradendron,* and *Arceuthobium.*
Monkey-apple: *Anona palustris.*
Monkey-apple, wild: *Clusia alba.*
Morass-weed: *Ceratophyllum demersum.*
Mountain-damson: *Simaruba amara.*
Mountain-ebony: *Casparea porrecta* and *Bauhinia megalandra.*
Mountain-grape, black: *Guettarda longiflora.*
Mountain-grape, common: *Coccoloba tenuifolia.*

Mountain-grape, large-leaved : *Coccoloba Plumieri.*
Mountain-plum : *Ximenia americana.*
Mountain-pride : *Spathelia simplex.*
Mountain-green : *Spathelia simplex.*
Mugwort : *Parthenium Hysterophorus.*
Muskwood : *Moschoxylum Swartzii* and *Guarea Swartzii.*
Mustard : *Sinapis.*
Mustard, bastard : *Cleome.*
Myrtle : *Eugenia*, etc.

Naseberry tree : *Sapota Achras.*
Naseberry-bully tree : *Sapota Sideroxylon.*
Naseberry-bully tree, broad-leaved : *Lucuma multiflora.*
Naseberry-bully tree, mountain : *Sapota Side. roxylon.*
Nectarine, Spanish : *Chrysobalanus Icaco.*
Negressee : *Bucida capitata.*
Nephritic tree : *Pithecolobium unguis-cati.*
Nettle : *Pilea* and *Urera.*
Nettle, Spanish : *Bidens.*
Nettle tree, Jamaica : *Sponia micrantha.*
Nhandiroba : *Feuillea cordifolia.*
Nicarago, bastard : *Cæsalpinia bijuga.*
Nicker tree : *Guilandina.*
Nightshade : *Solanum.*
Niopo tree : *Piptadenia peregrina.*
No-eye-pea : *Cajanus indicus.*
Noseburn tree : *Daphnopsis tenuifolia.*
Nutmeg : *Myristica fragrans.*
Nutmeg, American : *Monodora Myristica.*

Oak, Dominica : *Ilex sideroxyloides.*
Oak, French : *Bucida Buceras* and *Catalpa longisiliqua.*
Oats, wild : *Pharus latifolius.*
Ochra : *Abelmoschus esculentus.*
Ochra, musk : *Abelmoschus moschatus.*
Ochra, wild : *Malachra.*
Oil-nut tree : *Ricinus communis.*
Oil-palm : *Elæis guineensis.*
Oil-plant : *Sesamum orientale.*
Old-maid : *Vinca rosea.*
Old-man's-beard : *Tillandsia usneoides.*
Old-woman's-bitter : *Picramnia Antidesma.*
Old-woman's-tree : *Quiina jamaicensis.*
Olive, wild : *Ximenia americana, Bucida Buceras* and *capitata.*
Olive, wild, Barbadoes : *Bontia daphnoides.*
Olive-bark tree : *Bucida Buceras.*
Orange, bitter : *Citrus Aurantium*, var. *Bigaradia.*
Orange, Jamaica Mandarin : *Glycosmis citrifolia.*
Orange, sweet : *Citrus Aurantium.*
Orange, wild : *Drypetes glauca.*

Otaheite-apple : *Jambosa malaccensis.*
Otaheite-gooseberry : *Cicca disticha.*
Ox-eye, creeping : *Wedelia carnosa.*
Ox-eye, seaside : *Borrichia arborescens.*

Palmetto, humble : *Carludovica insignis (?)*
Palmetto, royal : *Thrinax parviflora* and *Sabal umbraculifera.*
Palmetto, silver-leaved : *Thrinax argentea.*
Palmetto, small : *Carludovica.*
Pameroon-bark : *Moschoxylon Swartzii.*
Papaw : *Carica Papaya.*
Parn-grass : *Panicum molle.*
Pareira-brava : *Cissampelos Pareira.*
Parrot-weed : *Bocconia frutescens.*
Parsley : *Petroselinum sativum.*
Parsnip : *Pastinaca sativa.*
Passion-flower : *Passiflora.*
Pea, black-eyed : *Dolichos sphærospermus.*
Pea, Congo or dry : *Cajanus indicus.*
Pea-flower : *Centrosema* and *Clitoria.*
Pea-tree, swamp : *Sesbania.*
Pear, prickly : *Opuntia Tuna.*
Pear, wild : *Clethra tinifolia.*
Pear-withe : *Tanæcium Jaroba.*
Pelican-flower : *Aristolochia grandiflora.*
Pennywort : *Hydrocotyle.*
Pepper, African : *Xylopia.*
Pepper, Cayenne or Guinea : *Capsicum.*
Pepper-elder : *Peperomia, Entkea, Artanthe.*
Pepper-grass : *Lepidium virginicum.*
Pepper-rod : *Croton humilis.*
Periwinkle : *Vinca rosea.*
Peter's-wort : *Ascyrum hypericoides.*
Physic-nut : *Jatropha Curcas.*
Physic-nut, French : *Jatropha multifida.*
Physic-nut, wild : *Euphorbia punicea.*
Pig-nut : *Omphalea triandra.*
Pigeon-pea : *Cajanus indicus.*
Pigeon-wood : *Dipholis salicifolia* and *Diospyros tetrasperma.*
Pigeon-wood, long-leaved : *Coccoloba diversifolia.*
Pigeon-wood, small : *Coccoloba diversifolia.*
Pigeon-wood, small-leaved : *Coccoloba punctata* and *leoganensis.*
Pimento : *Pimenta vulgaris.*
Pine-apple : *Ananassa sativa.*
Pindar : *Arachis hypogæa.*
Pingerin : *Bromelia Pinguin.*
Pitch-pine, Bahamas : *Pinus bahamensis.*
Pine, wild : *Tillandsia.*
Plantain : *Musa paradisiaca.*
Plantain, bastard : *Heliconia.*
Plantain, wild : *Heliconia Bihai.*
Plum-tree, seaside : *Ximenia americana.*
Pockwood tree : *Guaiacum officinale.*
Poison-berry : *Cestrum.*

Pokeweed: *Phytolacca.*
Pomegranate: *Punica Granatum.*
Pony: *Tecoma serratifolia.*
Potato: *Solanum tuberosum.*
Potato, seaside: *Ipomœa Pes-capræ.*
Potato, wild: *Ipomœa fastigiata.*
Prickly-pole: *Bactris Plumieriana.*
Prickly-withe: *Cereus triangularis.*
Primrose-willow: *Jussiæa.*
Prince-wood: *Hamelia ventricosa* and *Cordia gerascanthoides.*
Prune-tree: *Prunus occidentalis.*
Purple-heart: *Copaifera officinalis.*
Purple-lip: *Vanilla claviculata.*
Purslane: *Portulaca oleracea.*
Purslane, seaside: *Sesuvium portulacastrum.*

Radish: *Raphanus sativus.*
Ram-goat: *Fagara microphylla.*
Ramoon tree: *Trophis americana.*
Rattle-wort: *Crotalaria.*
Razor-grass: *Scleria scindens.*
Red-head: *Asclepias curassavica.*
Red-weed: *Phytolacca.*
Red-withe: *Combretum Jacquini.*
Red-wood: *Erythroxylum.*
Reed-grass: *Arundo occidentalis.*
Reed-mace: *Typha angustifolia.*
Reventa-cavallos: *Isotoma longiflora.*
Rice: *Oryza sativa.*
Ridging grass: *Anatherum bicorne.*
Ringworm-shrub: *Cassia alata.*
Roble: *Platymiscium platystachyum.*
Rocou or Roucou: *Bixa Orellana.*
Rod, golden: *Neurolæna lobata.*
Rod-wood: *Lætia* and *Eugenia.*
Rod-wood, black: *Eugenia pallens.*
Rod-wood, broad-leaved: *Eugenia axillaris.*
Rod-wood, red: *Eugenia axillaris.*
Rod-wood, small-leaved: *Eugenia monticola.*
Rod-wood, white: *Calyptranthes Chytraculia.*
Rosa-del-monte: *Brownea Rosa.*
Rose, Jamaica or wild: *Blakea trinervis.*
Rose-apple: *Jambosa vulgaris.*
Rose-wood: *Amyris balsamifera* and *Linociera ligustrina.*
Rosemary, wild: *Croton Cascarilla.*
Rupture-wort: *Alternanthera polygonoides.*

Sage, black: *Cordia cylindrostachya.*
Sage, wild: *Lantana* and *Salvia.*
Sage-rose: *Turnera ulmifolia.*
Saltwort: *Salicornia.*
Sambo: *Cleome.*
Samphire: *Borrichia arborescens.*
Samphire, Jamaica: *Batis maritima.*
Sandbox tree: *Hura crepitans.*
Sanders, yellow: *Bucida capitata.*
Santa Maria: *Calophyllum Calaba.*
Sapodilla tree: *Sapota Achras.*
Savannah-flower: *Echites.*
Savannah-wattle: *Citharexylum quadrangulare* and *cinereum.*
Savin tree: *Cæsalpinia bijuga* and *Fagara lentiscifolia.*
Savonette tree: *Pithecolobium micradenium.*
Scarlet-seed: *Ternstrœmia obovalis* and *Lætia Thamnia.*
Scotch attorney: *Clusia.*
Scotch grass: *Panicum molle.*
Screw-pine: *Pandanus.*
Screw tree: *Helicteres jamaicensis.*
Sea-apple: *Manicaria Plukenetii.*
Sebesten: *Cordia Sebestena.*
Segra-seed: *Feuillea cordifolia.*
Senna: *Cassia obovata.*
Senna tree: *Cassia emarginata.*
Sensitive-plant: *Mimosa pudica.*
Sensitive-plant, bastard: *Æschynomene americana.*
Serpent-withe: *Aristolochia odoratissima.*
Sesban: *Sesbania ægyptiaca.*
Seven-year-vine: *Ipomœa tuberosa.*
Shaddock: *Citrus decumana.*
Shag-bark: *Pithecolobium micradenium.*
Sheep's-bane: *Hydrocotyle umbellata.*
Shingle-wood: *Nectandra leucantha.*
Silk-cotton tree: *Eriodendron anfractuosum.*
Silk-grass: *Nidularium Karatas.*
Silver-wood: *Guettarda argentea, Zuelania lætioides,* and *Mouriria myrtilloides.*
Slog-wood: *Hufelandia pendula.*
Snake-wood: *Cecropia peltata* and *Colubrina ferruginosa.*
Snapdragon: *Ruellia tuberosa.*
Snowberry: *Chiococca racemosa.*
Snowdrop tree: *Hænianthus incrassatus.*
Soapberry tree: *Sapindus Saponaria.*
Soapwood: *Clethra tinifolia.*
Soft-wood, black: *Myrsine læta.*
Soldier-plant: *Calliandra purpurea.*
Sorrel: *Oxalis.*
Sorrel, climbing: *Begonia scandens.*
Sorrel, Indian or red: *Hibiscus Sabdarifa.*
Sorrel, switch: *Dodonæa viscosa.*
Sorrel, wood: *Begonia acutifolia.*
Sorrel-vine: *Cissus acida.*
Sour-grass: *Paspalum conjugatum.*
Sour-sop: *Anona muricata.*
Soushumber: *Solanum mammosum.*
Spanish-plum: *Spondias purpurea.*
Spiderwort: *Tradescantia.*
Spikenard: *Hyptis suaveolens.*
Spirit-leaf: *Ruellia tuberosa.*
Spur-tree: *Petitia domingensis.*
Spurge: *Euphorbia.*

Spurge, branched: *Ernodea litoralis.*
Stave-wood: *Simaruba amara.*
Star-apple: *Chrysophyllum Cainito.*
Star-apple, wild: *Chrysophyllum oliviforme.*
Star-of-Bethlehem: *Hypoxis decumbens.*
Star-grass: *Rhynchospora Vahliana.*
Star-of-night: *Clusia rosea.*
Stinking-wood: *Cassia occidentalis.*
Strainer-vine: *Luffa acutangula.*
Strong-bark: *Beureria.*
Strong-man's-weed: *Petiveria alliacea.*
Styptic- or velvet-bur: *Priva echinata.*
Sugar-apple: *Rollinia Sieberi.*
Sumach, Jamaica: *Rhus Metopium.*
Sumach, West Indian: *Brunellia comocladifolia.*
Supple-jack: *Paullinia curassavica, barbadensis,* and *Cardiospermum grandiflorum.*
Surette: *Byrsonima spicata.*
Surinam-poison: *Tephrosia toxicaria.*
Sweet-potato: *Ipomœa Batatas.*
Sweet-sop: *Anona squamosa* and *sericea.*
Sweet-William, Barbadoes: *Ipomœa Quamoclit.*
Sweet-wood, black: *Strychnodaphne floribunda.*
Sweet-wood, loblolly: *Oreodaphne Leucoxylon.*
Sweet-wood, long-leaved: *Nectandra leucantha.*
Sweet-wood, lowland: *Nectandra sanguinea.*
Sweet-wood, mountain: *Acrodiclidium jamaicense.*
Sweet-wood, pepper: *Nectandra sanguinea.*
Sweet-wood, Rio Grande: *Oreodaphne Leucoxylon.*
Sweet-wood, shrubby: *Amyris.*
Sweet-wood, timber: *Acrodiclidium jamaicense, Nectandra exaltata* and *leucantha.*
Sweet-wood, white: *Nectandra sanguinea* and *leucantha.*
Sweet-wood, yellow: *Nectandra sanguinea.*

Tamarind: *Tamarindus indica.*
Tamarind, bastard: *Acacia Julibrissin.*
Tamarind, wild: *Pithecolobium filicifolium.*
Tamarind, yellow: *Acacia villosa.*
Tansey, wild: *Ambrosia artemisifolia.*
Tapioca: *Janipha Manihot.*
Taya: *Xanthosoma peregrinum.*
Tea, West Indian: *Capraria biflora.*
Tears-of-St.-Peter: *Anthacanthus microphyllus.*
Thatch: *Calyptronoma Swartzii* and *Copernicia tectorum.*
Thatch, palmetto: *Thrinax parviflora.*
Thatch, silver: *Thrinax argentea.*
Thistle, yellow: *Argemone.*
Thorn, white: *Macrocnemum jamaicense.*
Thorn-apple: *Datura Stramonium.*
Tirite: *Ischnosiphon Arouma.*
Tobacco: *Nicotiana Tabacum.*
Tobacco, riverside: *Pluchea odorata.*
Tomato-berry: *Lycopersicum esculentum.*
Tom-Bontrin's-bush: *Picramnia Antidesma.*
Toothwort: *Plumbago scandens.*
Torch-thistle: *Cereus repandus* and *eriophorus.*
Torchwood: *Amyris balsamifera* and *Thiodia serrata.*
Trefoil: *Stylosanthes procumbens.*
Trumpet-flower: *Solandra, Brunfelsia,* and *Catalpa.*
Trumpet-flower, peach-coloured: *Solandra grandiflora.*
Trumpet-flower, shrubby: *Tecoma stans.*
Trumpet-reed: *Arundo occidentalis.*
Trumpet tree: *Cecropia peltata.*
Tulip tree: *Paritium elatum.*
Turkey-berry: *Solanum torvum* and *mammosum.*
Turkey-berry tree: *Cordia Collococca.*
Turkey-blossom: *Tribulus cistoides.*
Turk's-head: *Melocactus communis.*
Turnip: *Sinapis Rapa* (*Brassica*, L.).
Turtle-grass: *Thalassia testudinum.*
Tyle-berry: *Jatropha multifida.*

Vanglo: *Sesamum orientale.*
Vanilla: *Vanilla planifolia.*
Vanilla, Cuba: *Critonia dalea.*
Vegetable, leather: *Euphorbia punicea.*
Velvet-bur: *Priva echinata.*
Velvet-leaf: *Cissampelos Pareira.*
Velvet-seed: *Guettarda elliptica.*
Vervain: *Verbena urticifolia.*
Vine-sorrel: *Cissus acida.*
Virgin's bower: *Clematis.*

Wake-robin: *Anthurium* and *Philodendron.*
Walnut, Jamaica: *Picrodendron Juglans.*
Walnut, Otaheite: *Aleurites triloba.*
Wart-herb: *Rhynchosia minima.*
Watercress: *Nasturtium officinale.*
Water-hyssop: *Herpestis Monnieria.*
Water-lemon: *Passiflora laurifolia* and *maliformis.*
Water-lily: *Nymphæa.*
Water-plantain: *Echinodorus cordifolius.*
Water-vine: *Doliocarpus Galinea.*
Water-withe: *Vitis caribæa.*
Water-wood: *Chimarrhis cymosa.*
Wattle-wood: *Lætia Thamnia.*
Waw-waw: *Rajania pleioneura.*
West-Indian-bark: *Exostemma caribæum.*
White-head: *Parthenium Hysterophorus.*
White-horse: *Portlandia grandiflora.*

hite-wood : *Oreodaphne Leucoxylon, Nectandra leucantha, Tecoma Leucoxylon* and *pentaphylla.*
hitewood-bark : *Canella alba.*
hitewood-cedar : *Tecoma Leucoxylon.*
inter-berry : *Ilex montana.*
inter-cherry : *Physalis.*
ire-grass : *Paspalum filiforme.*
ood-bind, Spanish : *Ipomœa tuberosa.*
orm-grass : *Spigelia Anthelmia.*
ormwood, wild : *Parthenium Hysterophorus.*
ound-worth : *Liabum Brownei.*
reath, purple : *Petrea volubilis.*

Yacca tree ; *Podocarpus coriacea.*
Yam-bean : *Dolichos tuberosus.*
Yams, Indian : *Dioscorea trifida.*
Yams, Negro country : *Dioscorea alata.*
Yams, white : *Dioscorea alata.*
Yams, wild : *Cissus sicyoides* and *Rajania pleioneura.*
Yaw-weed : *Morinda Royoc.*
Yellow-wood : *Zanthoxylum* and *Tobinia.*
Yellow-wood, prickly : *Zanthoxylum Clava-Herculis.*

Zebra-wood : *Eugenia fragrans*, var. *cuneata.*
Zezegany : *Sesamum orientale.*

THE END.

JOHN EDWARD TAYLOR, PRINTER,
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